Actiontec®

USB/Ethernet

DSL Modem

Model #: GT701

User Manual

Solutions for the Digital Life™

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Introduction 1

Thank you for purchasing the *Action*tec USB/Ethernet DSL Modem. The Modem is the simplest way to connect computers to a high-speed broadband connection. This easy-to-use product is perfect for the home office or small business. If you want to take your computing to the next level, the *Action*tec USB/Ethernet DSL Modem is sure to be one of the keys to your success.

Package Contents

- *Action*tec USB/Ethernet DSL Modem
- Black bag (includes Power cord and gray DSL cable)
- Phone filters
- Yellow (Ethernet) cable
- Blue (USB) cable
- Installation CD
- Quick start guide

Minimum System Requirements

- Active DSL service
- Computer with a 10/100 Mbps Ethernet connection, or USB connection

☞ ***Note***: USB LAN port is not supported with Microsoft Windows 95, Windows NT 4.0, and Mac OS.

- Microsoft Windows 98 Second Edition (SE), Windows Millennium Edition (Me), Windows NT 4.0, Windows 2000, Windows XP, Mac OS 7.1 and above
- Internet Explorer 4.0 or higher (5.x recommended) or Netscape Navigator 4.0 or higher (4.7 recommended)
- TCP/IP network protocol installed on each computer

Features

- Plug-and-Play installation support for systems with Windows operating systems (98, 98SE, Me, 2000, and XP)
- ADSL WAN port (RJ-11)
- Compliant with full-rate ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) and G.992.2 (G.lite) standard
- Auto-handshake for different ADSL flavors
- USB 1.1 device specification compliance
- 11 Mbps USB data rate (full speed)
- Bridged Ethernet over ATM, PPP over ATM, PPP over Ethernet
- Precise ATM traffic shaping
- IP packet routing and transparent bridge
- Routing protocol supports RIP-1, RIP-2, static routing
- Built-in NAT, DHCP server
- DNS relay support
- PAP/CHAP authentication, administrative passwords through Telnet

- Compliant with IEEE 802.3 Ethernet standard
- 10/100 Base-T Ethernet port
- Flow control support for Fast Ethernet
- Web-based configuration setup
- Default configuration backup restore
- FTP firmware upgradeable
- Web download support

Getting to Know the Modem

This section contains a quick description of the Modem's lights, ports, etc. The Modem contains several indicator lights (LEDs) on its front panel and a series of ports on its rear panel.

Front Panel

The front panel of the Modem features five lights (or LEDs): Power, DSL, Internet, Ethernet, and USB.

Power Light

The Power light displays the Modem's current status. If the Power light glows steadily green, the Modem is receiving power and fully operational. When the Power light flashes rapidly, the Modem is initializing. If the Power light is not illuminated when the Power cord is plugged in, the Modem has suffered a critical error and technical support should be contacted.

DSL Light

The DSL light illuminates when the Modem is connected to a DSL line.

Internet Light

When the Internet light glows steadily, the Modem is connected to the DSL provider. When it flashes, the Modem's built-in DSL modem is training for DSL service. When it glows red, the Modem failed to connect to the Internet.

Ethernet Light

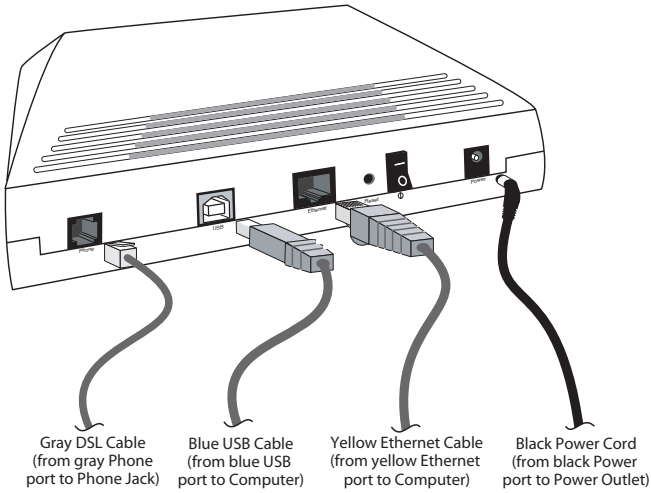
The Ethernet light illuminates when the Modem is connected via its Ethernet port.

USB Light

The USB light illuminates when the Modem is connected via its USB port.

Rear Panel

The rear panel of the Modem contains four ports (Phone, USB, Ethernet, and Power), as well as an On/Off switch and Reset button.


Gray DSL Cable (from gray Phone port to Phone Jack)
Blue USB Cable (from blue USB port to Computer)
Yellow Ethernet Cable (from yellow Ethernet port to Computer)
Black Power Cord (from black Power port to Power Outlet)

Phone Port

The Phone port is used to connect the Modem to a phone jack.

USB Port

The USB port is used to connect a computer to the Modem via USB cable.

Ethernet Port

The Ethernet port is used to connect a computer to the Modem via Ethernet cable. The Ethernet port is a 10/100 Mbps auto-sensing port, and either a straight-through or crossover Ethernet cable can be used when connecting to the port.

On/Off Switch

The On/Off switch controls power to the Modem. When the top of the switch is depressed, the Modem is powered off. When the bottom of the switch is depressed, the Modem is powered on (assuming the Power cord is correctly connected).

Warning: Do not power down the Modem using the On/Off switch during the reset process. Doing so may result in permanent damage to the Modem.

Reset Button

Depressing the Reset button for one or two seconds will power cycle the Modem (similar to unplugging and then plugging in the Modem's Power cord). To restore the Modem's factory default settings, depress and hold the Reset button for approximately 15 seconds. The reset process will start about 10 seconds after releasing the switch.

Power Port

The Power port is used to connect the Power cord to the Modem.

Warning: Do not unplug the Power cord from the Modem's Power port during the reset process. Doing so may result in permanent damage to the Modem.

Setting Up the Modem

2

The instructions that follow in this chapter parallel the steps contained in the *Action*tec Installation Buddy®, which provides a visual, step-by-step guide to setting up the Modem. It is recommended the user run the Installation Buddy first, before attempting any other procedures.

If your Internet Service Provider (ISP) provided a welcome letter or worksheet containing information needed to complete the installation, have it available. If this document was not received, contact the ISP to get the needed information.

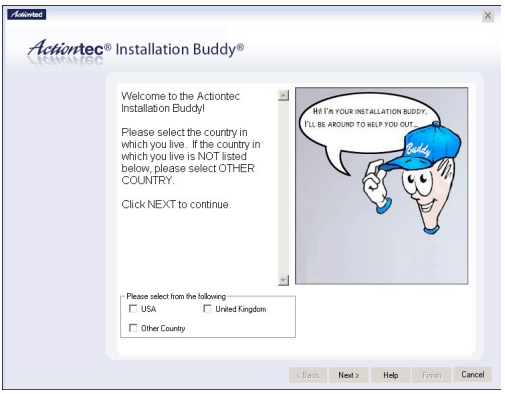
☞ ***Note***: The following procedures are for US installations. If you live in the UK or another country, the procedures will be slightly different.

Connecting a Computer to the Modem

Connecting a computer to the Modem involves three steps: initial setup, plugging in the power cord, and connecting the Modem to the computer and phone jack.

Connecting Via Ethernet

1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, select the country in which you live by clicking in the appropriate check box, then click **Next**.

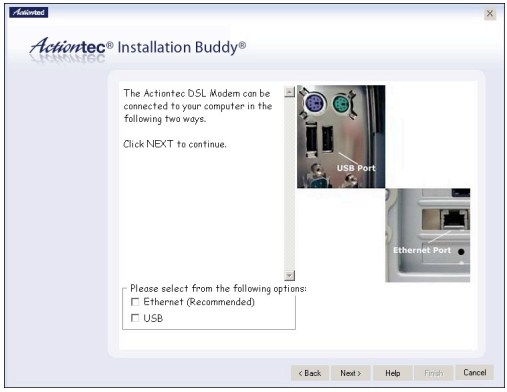

Actiontec® Installation Buddy®
Welcome to the Actiontec Installation Buddy!
Please select the country in which you live. If the country in which you live is NOT listed below, please select OTHER COUNTRY.
Click NEXT to continue.
Hi! I'm YOUR INSTALLATION BUDDY. I'LL BE AROUND TO HELP YOU OUT.
Please select from the following:
USA
United Kingdom
Other Country
< Back
Next >
Help
Finish
Cancel

2. Read the instructions, consult the ISP's documentation, and select the appropriate letter by clicking in its check box, then click **Next**.

Actiontec® Installation Buddy®
You should have received a document from your Internet Service Provider (ISP) that included your DSL User Name and Password. Somewhere on this document, your ISP should have listed a letter. Make sure that you click the box next to that letter now.
Click NEXT to continue.
DSL Modem
DSL Modem
Please select from the following options:
A
B
C
D
E
F
< Back
Next >
Help
Finish
Cancel

☞ ***Note***: For more details regarding these settings, see Appendix H on page 99.

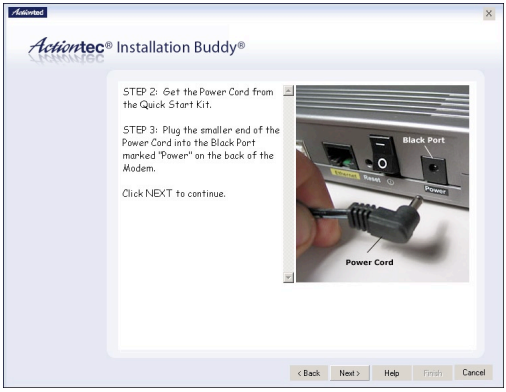
3. Click in the check box next to **Ethernet (Recommended)**, then click **Next**.



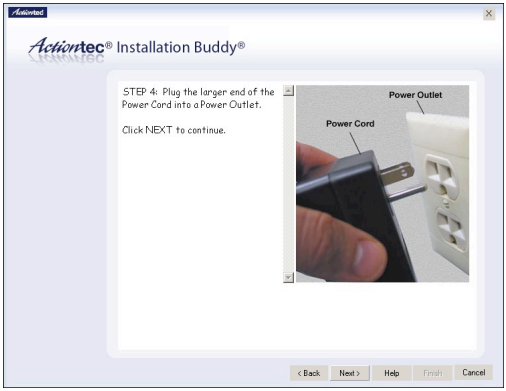
4. Make sure the items needed to connect the Modem to the first computer are included in the kit, then click **Next**.

5. Get the **Modem** from the kit, then click **Next**.

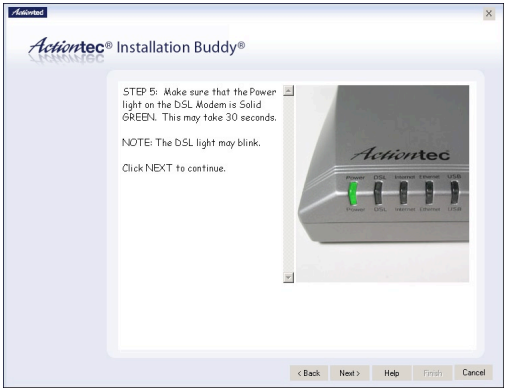
6. Get the **Power cord** from the kit and plug the smaller end into the **black Power port** on the rear panel of the Modem, then click **Next**.


Actiontec® Installation Buddy®
STEP 2: Get the Power Cord from the Quick Start Kit.
STEP 3: Plug the smaller end of the Power Cord into the Black Port marked "Power" on the back of the Modem.
Click NEXT to continue.
Black Port
Power Cord
< Back
Next >
Help
Finish
Cancel

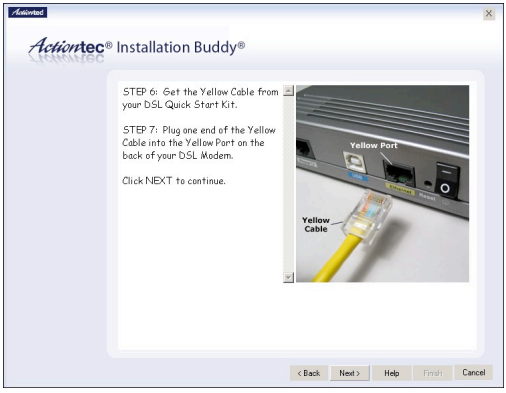
7. Plug the larger end of the **Power cord** into a **power outlet**, then click **Next**.



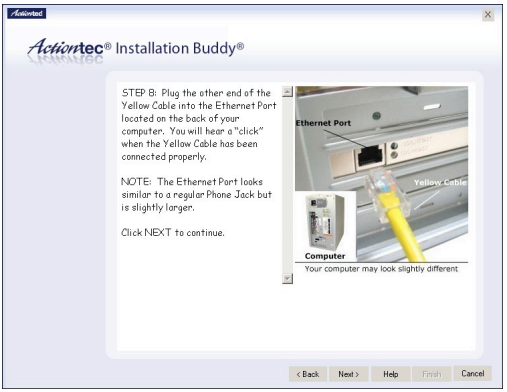
8. Confirm the **Power light** on the front of the Modem **glows solid green**, then click **Next**.


Actiontec® Installation Buddy®
STEP 5: Make sure that the Power light on the DSL Modem is Solid GREEN. This may take 30 seconds.
NOTE: The DSL light may blink.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

9. Get the **yellow Ethernet cable** from the kit and plug one end into the **yellow Ethernet port** on the back of the Modem, then click **Next**.

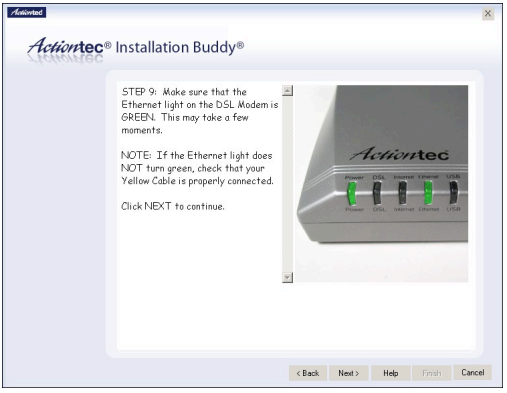

Actiontec® Installation Buddy®
STEP 6: Get the Yellow Cable from your DSL Quick Start Kit.
STEP 7: Plug one end of the Yellow Cable into the Yellow Port on the back of your DSL Modem.
Click NEXT to continue.
Yellow Port
Yellow Cable
< Back
Next >
Help
Finish
Cancel

10. Plug the other end of the **yellow Ethernet cable** into an **Ethernet port** on the back of the computer. Click **Next**.

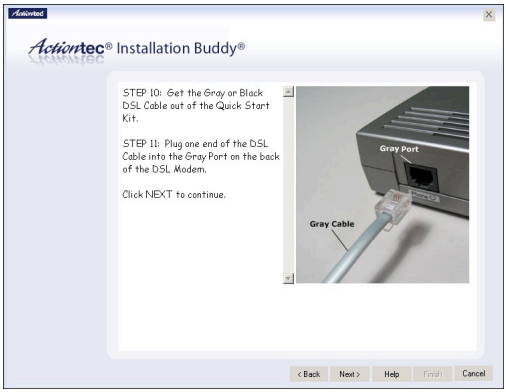

Actiontec® Installation Buddy®
STEP 8: Plug the other end of the Yellow Cable into the Ethernet Port located on the back of your computer. You will hear a "click" when the Yellow Cable has been connected properly.
NOTE: The Ethernet Port looks similar to a regular Phone Jack but is slightly larger.
Click NEXT to continue.
Ethernet Port
Yellow Cable
Computer
Your computer may look slightly different
< Back
Next >
Help
Finish
Cancel

☞ ***Note***: An Ethernet port looks similar to a phone jack, but is slightly larger.

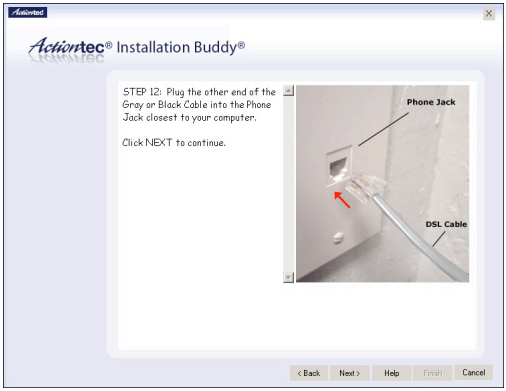
11. Make sure the **Ethernet light** on the front of the Modem **glows solid green**. Click **Next**.


Actiontec® Installation Buddy®
STEP 9: Make sure that the Ethernet light on the DSL Modem is GREEN. This may take a few moments.
NOTE: If the Ethernet light does NOT turn green, check that your Yellow Cable is properly connected.
Click NEXT to continue.
Actiontec
Power
DSL
Internet
Ethernet
USB
< Back
Next >
Help
Finish
Cancel

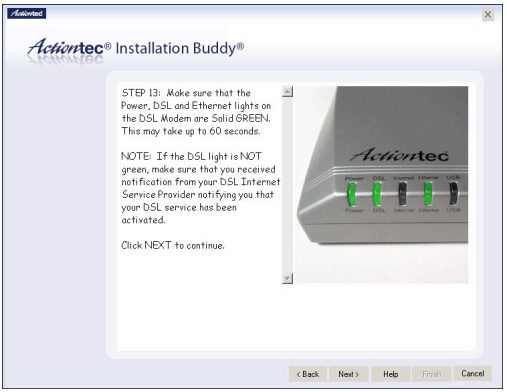
12. Get the **gray or black DSL cable** from the kit and plug one end into the **gray Phone port** on the rear panel of the Modem. Click **Next**.


Actiontec® Installation Buddy®
STEP 10: Get the Gray or Black DSL Cable out of the Quick Start Kit.
STEP 11: Plug one end of the DSL Cable into the Gray Port on the back of the DSL Modem.
Click NEXT to continue.
Gray Port
Gray Cable
< Back
Next >
Help
Finish
Cancel

13. Plug the other end of the **gray or black DSL cable** into the **phone jack** closest to the computer. Click **Next**.


Actiontec® Installation Buddy®
STEP 12: Plug the other end of the Gray or Black Cable into the Phone Jack closest to your computer.
Click NEXT to continue.
Phone Jack
DSL Cable
< Back
Next >
Help
Finish
Cancel

14. Make sure the the **Power, DSL,** and **Ethernet lights** on the Modem **glow solid green** (it may take a few moments). Click **Next**.


Actiontec® Installation Buddy®
STEP 13: Make sure that the Power, DSL and Ethernet lights on the DSL Modem are Solid GREEN. This may take up to 60 seconds.
NOTE: If the DSL light is NOT green, make sure that you received notification from your DSL Internet Service Provider notifying you that your DSL service has been activated.
Click NEXT to continue.
Actiontec
Power DSL Internet Ethernet USB
< Back
Next >
Help
Finish
Cancel

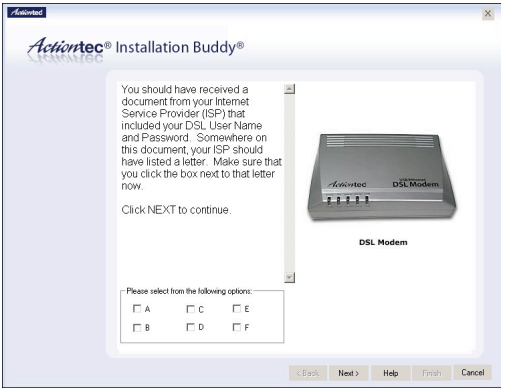
The Modem is connected to a computer via Ethernet. Next, install the phone filters as described in "Installing Phone Filters" on page 21.

Connecting Via USB

1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, select the country in which you live by clicking in the appropriate check box, then click **Next**.

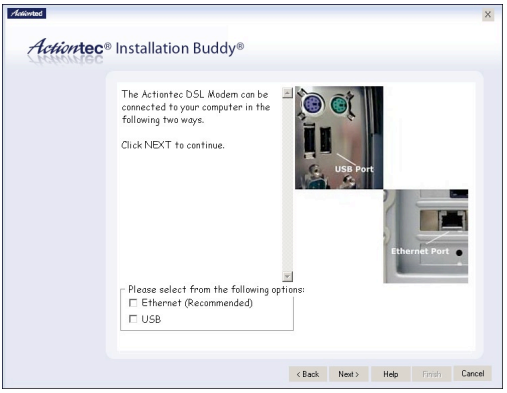
Actiontec® Installation Buddy®
Welcome to the Actiontec Installation Buddy!
Please select the country in which you live. If the country in which you live is NOT listed below, please select OTHER COUNTRY.
Click NEXT to continue.
HI! I'M YOUR INSTALLATION BUDDY. I'LL BE AROUND TO HELP YOU OUT.
Buddy
Please select from the following:
USA
United Kingdom
Other Country
< Back
Next >
Help
Finish
Cancel

2. Read the instructions, consult the ISP's documentation, and select the appropriate letter by clicking in its check box, then click **Next**.

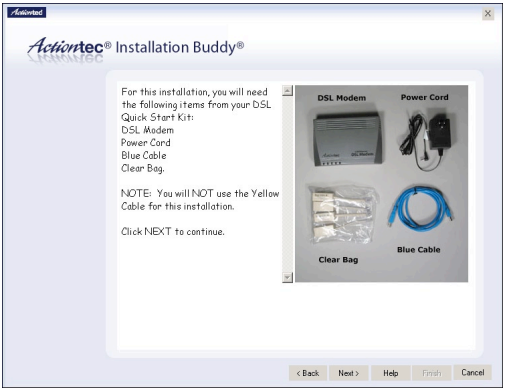

Actiontec® Installation Buddy®
You should have received a document from your Internet Service Provider (ISP) that included your DSL User Name and Password. Somewhere on this document, your ISP should have listed a letter. Make sure that you click the box next to that letter now.
Click NEXT to continue.
DSL Modem
DSL Modem
Please select from the following options:
A
B
C
D
E
F
< Back
Next >
Help
Finish
Cancel

☞ ***Note***: For more details regarding these settings, see Appendix H on page 99.

3. Click in the check box next to **USB**, then click **Next**.



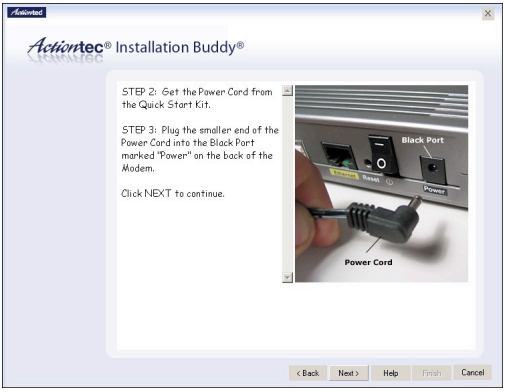
4. Make sure the items needed to connect the Modem to the first computer are included in the kit, then click **Next**.



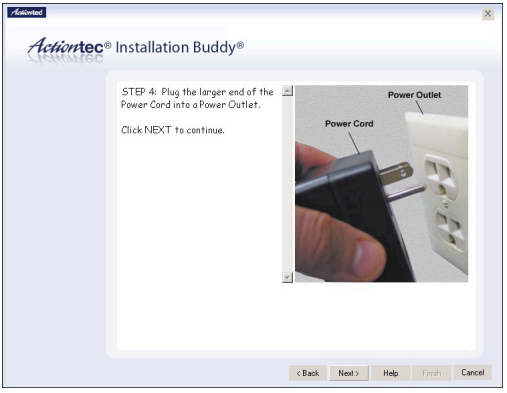
5. Get the **Modem** from the kit, then click **Next**.

Actiontec® Installation Buddy®
It is time to connect your DSL Modem.
STEP 1: Get the DSL Modem from your DSL Quick Start Kit.
Click NEXT to continue.
DSL Modem
< Back
Next >
Help
Finish
Cancel

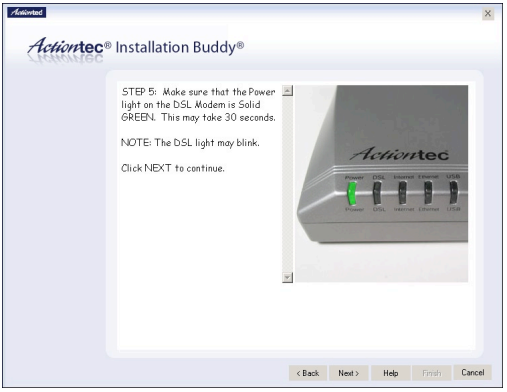
6. Get the **Power cord** from the kit and plug the smaller end into the **black Power port** on the rear panel of the Modem, then click **Next**.


Actiontec® Installation Buddy®
STEP 2: Get the Power Cord from the Quick Start Kit.
STEP 3: Plug the smaller end of the Power Cord into the Black Port marked "Power" on the back of the Modem.
Click NEXT to continue.
Black Port
Power
Power Cord
< Back
Next >
Help
Finish
Cancel

7. Plug the larger end of the **Power cord** into a **power outlet**, then click **Next**.



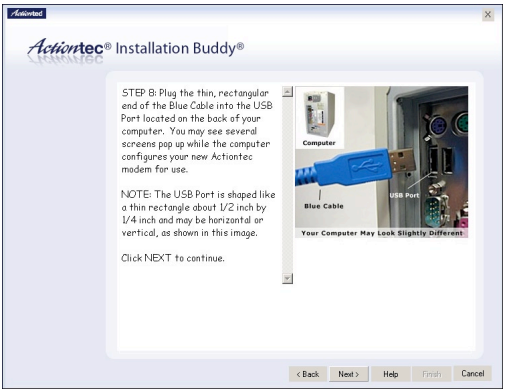
8. Confirm the **Power light** on the front of the Modem **glows solid green**, then click **Next**.


Actiontec® Installation Buddy®
STEP 5: Make sure that the Power light on the DSL Modem is Solid GREEN. This may take 30 seconds.
NOTE: The DSL light may blink.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

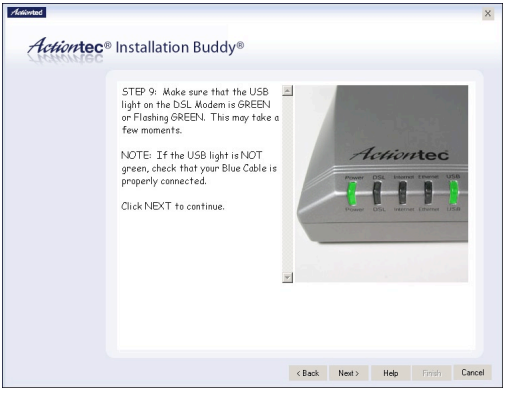
9. Get the **blue USB cable** from the kit and plug the square end into the **blue USB port** on the back of the Modem, then click **Next**.

Actiontec® Installation Buddy®
STEP 6: Get the Blue Cable from your DSL Quick Start Kit.
STEP 7: Plug the square end of the Blue Cable into the Blue Port on the back of your DSL Modem.
Click NEXT to continue.
USB Port
Blue Cable
< Back
Next >
Help
Finish
Cancel

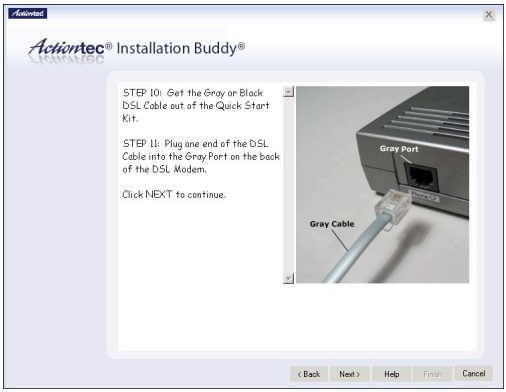
10. Plug the rectangular end of the **blue USB cable** into a **USB port** on the front or back of the computer. Click **Next**.


Actiontec® Installation Buddy®
STEP 8: Plug the thin, rectangular end of the Blue Cable into the USB Port located on the back of your computer. You may see several screens pop up while the computer configures your new Actiontec modem for use.
NOTE: The USB Port is shaped like a thin rectangle about 1/2 inch by 1/4 inch and may be horizontal or vertical, as shown in this image.
Click NEXT to continue.
Computer
Blue Cable
USB Port
Your Computer May Look Slightly Different
< Back
Next >
Help
Finish
Cancel

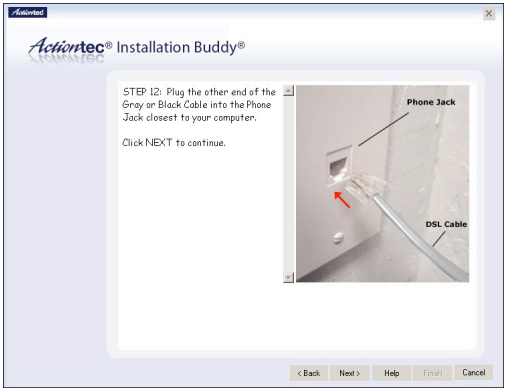
11. Make sure the **USB light** on the front of the Modem **glows solid green**. Click **Next**.


Actiontec® Installation Buddy®
STEP 9: Make sure that the USB light on the DSL Modem is GREEN or Flashing GREEN. This may take a few moments.
NOTE: If the USB light is NOT green, check that your Blue Cable is properly connected.
Click NEXT to continue.
Actiontec
Power
DSL
Internet
Ethernet
USB
< Back
Next >
Help
Finish
Cancel

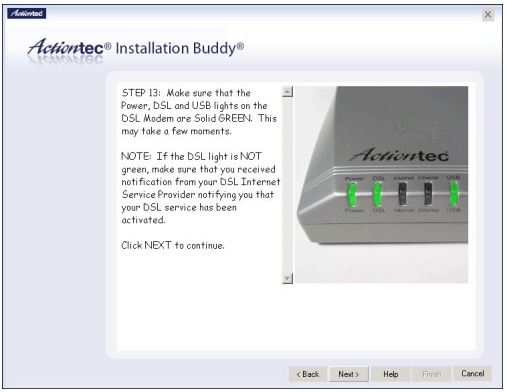
12. Get the **gray or black DSL cable** from the kit and plug one end into the **gray Phone port** on the rear panel of the Modem. Click **Next**.


Actiontec® Installation Buddy®
STEP 10: Get the Gray or Black DSL Cable out of the Quick Start Kit.
STEP 11: Plug one end of the DSL Cable into the Gray Port on the back of the DSL Modem.
Click NEXT to continue.
Gray Port
Gray Cable
< Back
Next >
Help
Finish
Cancel

13. Plug the other end of the **gray or black DSL cable** into the **phone jack** closest to the computer. Click **Next**.


Actiontec® Installation Buddy®
STEP 12: Plug the other end of the Gray or Black Cable into the Phone Jack closest to your computer.
Click NEXT to continue.
Phone Jack
DSL Cable
< Back
Next >
Help
Finish
Cancel

14. Make sure the the **Power, DSL,** and **USB lights** on the Modem **glow solid green** (it may take a few moments). Click **Next**.


Actiontec® Installation Buddy®
STEP 13: Make sure that the Power, DSL and USB lights on the DSL Modem are Solid GREEN. This may take a few moments.
NOTE: If the DSL light is NOT green, make sure that you received notification from your DSL Internet Service Provider notifying you that your DSL service has been activated.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

The Modem is connected to a computer via USB. Next, install the phone filters as described in "Installing Phone Filters," below.

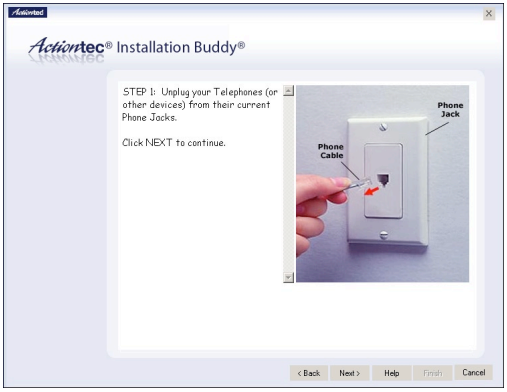
Installing Phone Filters

Phone filters allow the use of the telephone or other online devices while online. All devices (telephones, answering machines, fax machines, etc.) using the same phone line (i.e., using the same phone number) as the DSL line must have a phone filter installed. To install phone filters:

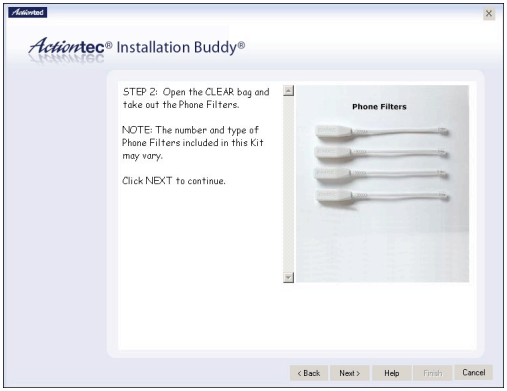
1. Read the on-screen information, get the **phone filters**, then click **Next**.

Actiontec® Installation Buddy®
Now you are going to connect the Phone Filters.
What are Phone Filters? Phone Filters separate the DSL Signal from your voice signal so that you can talk on the Phone and be online at the same time.
ALL PHONES with the same number as your DSL Line will require Phone Filters. This includes phones, fax machines, caller IDs and answering machines.
Phone Filters
< Back
Next >
Help
Finish
Cancel

2. Read the on-screen information, then unplug the **phone cords** of all **telephones** and **other devices** from their respective phone jacks. Click **Next**.



3. Remove the **phone filters** from the **clear bag**. Click **Next**.


Actiontec® Installation Buddy®
STEP 2: Open the CLEAR bag and take out the Phone Filters.
NOTE: The number and type of Phone Filters included in this Kit may vary.
Click NEXT to continue.
Phone Filters
< Back
Next >
Help
Finish
Cancel

Caution: **Do not** unplug the gray or black DSL cable from the phone jack near your computer.

4. Plug a **phone filter** into every **phone jack** with a telephone or other device connected to it. Click **Next**.

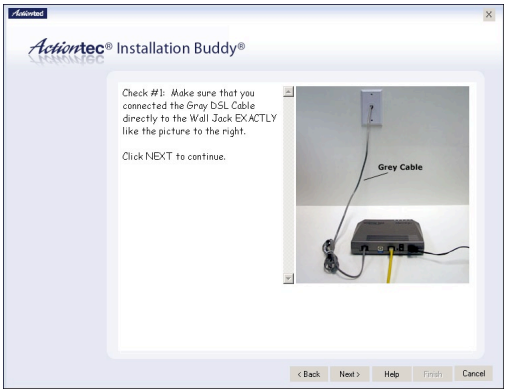
Actiontec® Installation Buddy®
STEP 3: Plug a Phone Filter into every Phone Jack in your house with the same phone number as your DSL Line, and a telephone (or other device) connected to it.
NOTE: If you need additional Phone Filters, contact your DSL Internet Service Provider.
Click NEXT to continue.
Phone Jack
Phone Filter
< Back
Next >
Help
Finish
Cancel

Caution: **Do not** plug a phone filter in the phone jack in which the gray or black DSL cable is plugged.

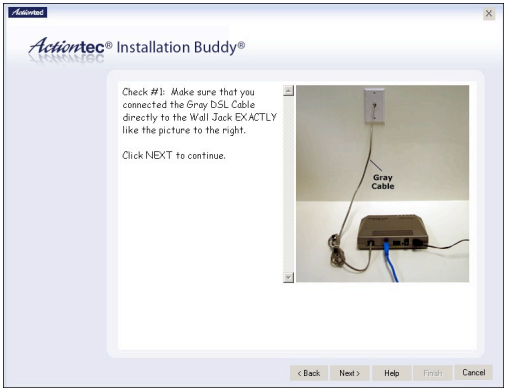
5. Plug the ends of the **phone cords** disconnected in step 2 into the **phone filters** plugged into phone jacks. Click **Next**.

Actiontec® Installation Buddy®
STEP 4: Plug one end of the Phone Cord into the Phone Filter and keep the other end attached to the phone, fax machine, caller ID or answering machine.
Click NEXT to continue.
Phone
Phone Jack
Phone Cord
Small Phone Filter
< Back
Next >
Help
Finish
Cancel

6. The Modem should be connected similarly to the on-screen picture, depending on whether the computer was connected via Ethernet or USB.
Ethernet:

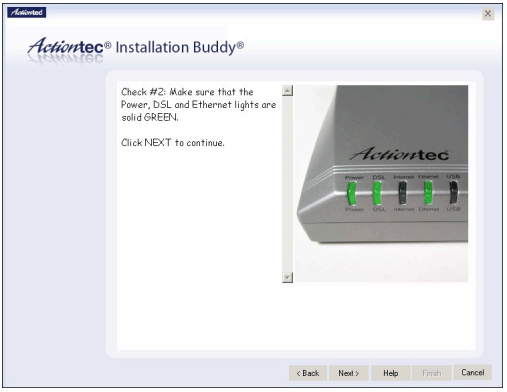

Actiontec® Installation Buddy®
Check #1: Make sure that you connected the Gray DSL Cable directly to the Wall Jack EXACTLY like the picture to the right.
Click NEXT to continue.
Grey Cable
< Back
Next >
Help
Finish
Cancel

USB:

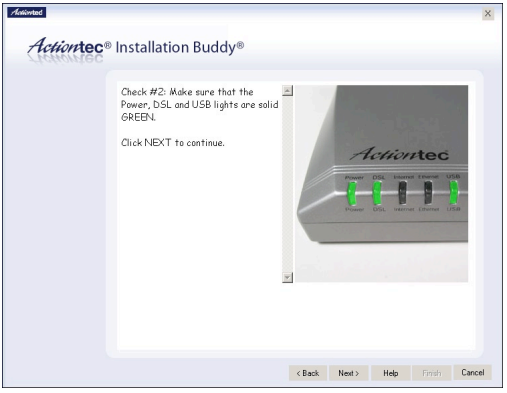

Actiontec® Installation Buddy®
Check #1: Make sure that you connected the Gray DSL Cable directly to the Wall Jack EXACTLY like the picture to the right.
Click NEXT to continue.
Gray Cable
< Back
Next >
Help
Finish
Cancel

Click **Next**.

7. Make sure the **Power**, **Internet**, and **Ethernet** or **USB** lights are **solid green**.
Ethernet:


Actiontec® Installation Buddy®
Check #2: Make sure that the Power, DSL and Ethernet lights are solid GREEN.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

USB:

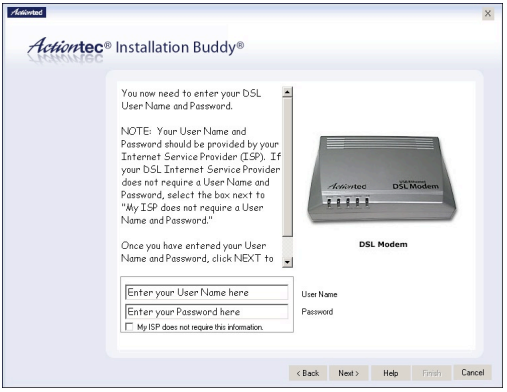

Actiontec® Installation Buddy®
Check #2: Make sure that the Power, DSL and USB lights are solid GREEN.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

Next, go to "Setting Up the DSL Connection" on the next page.

Setting Up the DSL Connection

After connecting the Modem and installing phone filters, the DSL connection must be configured. To do this:

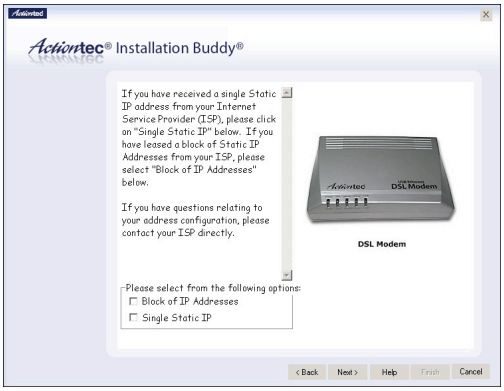
1. Enter the user name and password in the appropriate text boxes (or click the check box next to "My ISP does not require this information."), then click **Next**.


Actiontec® Installation Buddy®
You now need to enter your DSL User Name and Password.
NOTE: Your User Name and Password should be provided by your Internet Service Provider (ISP). If your DSL Internet Service Provider does not require a User Name and Password, select the box next to "My ISP does not require a User Name and Password."
Once you have entered your User Name and Password, click NEXT to
DSL Modem
Enter your User Name here
Enter your Password here
My ISP does not require this information.
User Name
Password
< Back
Next >
Help
Finish
Cancel

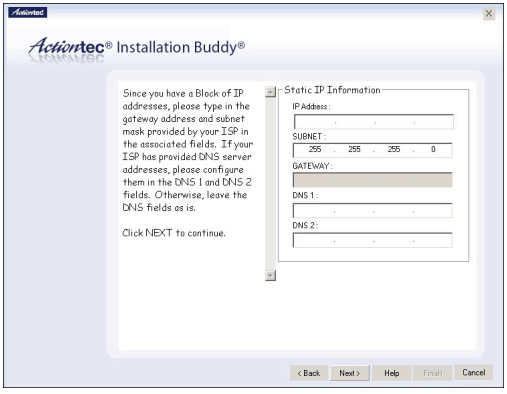
2. Select the appropriate IP type. This information should be available from the ISP. When finished, click **Next**.
   If **Static IP** is selected, go to step 3.
   If **Dynamic IP (DHCP)** is selected, got to step 5.

Actiontec® Installation Buddy®
Please select from the following IP types. The IP type will be provided by your DSL Internet Service Provider. Since most ISPs use the "Dynamic" setting, Actiontec recommends that you select "Dynamic IP" unless you have been told otherwise by your ISP.
Click NEXT to continue.
DSL Modem
IP Type:
Static IP
Dynamic IP (Recommended)
< Back
Next >
Help
Finish
Cancel

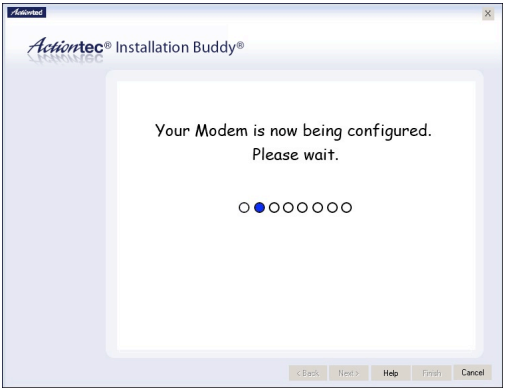
3. Select the type of static IP address received from the ISP (**Single** or **Block**), then click **Next**.


Actiontec® Installation Buddy®
If you have received a single Static IP address from your Internet Service Provider (ISP), please click on "Single Static IP" below. If you have leased a block of Static IP Addresses from your ISP, please select "Block of IP Addresses" below.
If you have questions relating to your address configuration, please contact your ISP directly.
DSL Modem
DSL Modem
Please select from the following options:
Block of IP Addresses
Single Static IP
< Back
Next >
Help
Finish
Cancel

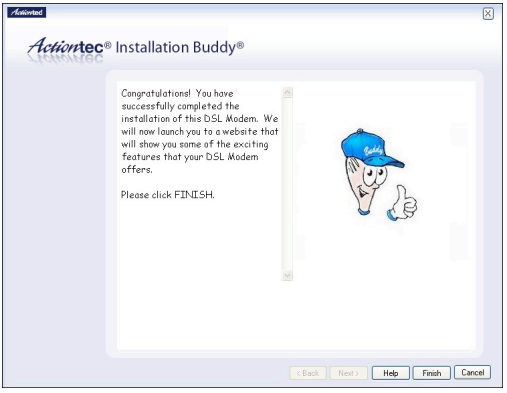
4. In the next window, enter the **IP Address**, **Subnet**, **Modem**, **DNS 1**, and **DNS 2** information (if applicable) in the appropriate text boxes. This information should be available in the ISP. When finished, click **Next** and go to step 5.


Actiontec® Installation Buddy®
Since you have a Block of IP addresses, please type in the gateway address and subnet mask provided by your ISP in the associated fields. If your ISP has provided DNS server addresses, please configure them in the DNS 1 and DNS 2 fields. Otherwise, leave the DNS fields as is.
Click NEXT to continue.
Static IP Information
IP Address :
SUBNET :
255 . 255 . 255 . 0
GATEWAY :
DNS 1 :
DNS 2 :
< Back
Next >
Help
Finish
Cancel

5. The Installation Buddy checks the configuration of the Modem.



6. When the configuration is complete, a series of "Congratulations" screens appear. Read the on-screen information, then click through the next few screens, then click **Finish** in the last screen to exit the Installation Buddy.


Actiontec® Installation Buddy®
Congratulations! You have successfully completed the installation of this DSL Modem. We will now launch you to a website that will show you some of the exciting features that your DSL Modem offers.
Please click FINISH.
< Back
Next >
Help
Finish
Cancel

The Modem is successfully configured and ready for use.

Performing a Basic Setup

3

This chapter is a guide through a basic setup of the Modem for those users who did NOT use the *Action*tec Installation Buddy® to setup the Modem. It includes instructions on how to connect the Modem to the ISP and changing the admin user name and password.

To complete a basic setup, the user will need information provided by the ISP. This information is sometimes contained in a welcome letter or ISP worksheet. If this document is not available, contact the ISP immediately and request one.

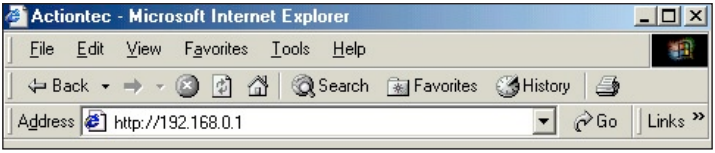
Basic Setup

☞ ***Note:*** If you already set up the Modem using the Installation Buddy (as described in Chapter 2, "Setting Up the Modem," on page 7), the settings described in this section have already been configured. Continue to chapter 4, "Using Advanced Setup" on page 33, to configure the advanced settings of the Modem.

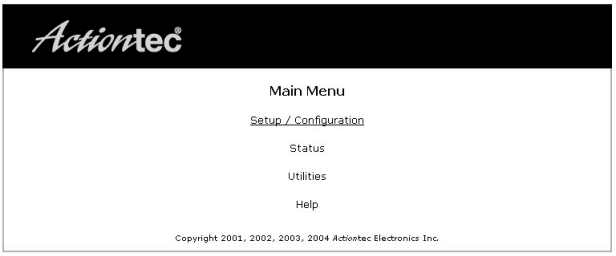
1. Open a Web browser. In the address bar, enter

`http://192.168.0.1`

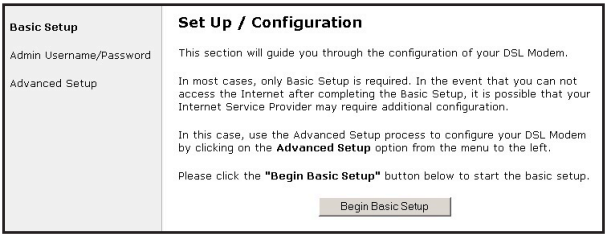
then press **Enter** on the keyboard.



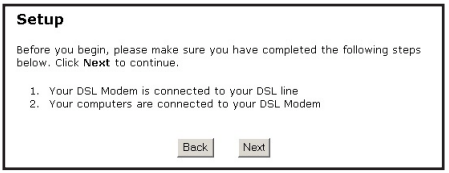
2. The "Main Menu" screen appears. Select **Setup/Configuration**.



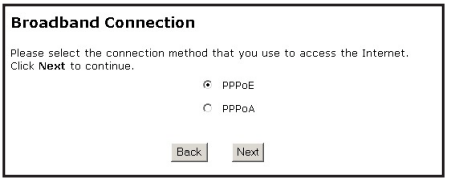
3. Follow the instructions in the "Set Up/Configuration" screen, then click **Begin Basic Setup**.


Basic Setup
Admin Username/Password
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Modem.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Modem by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

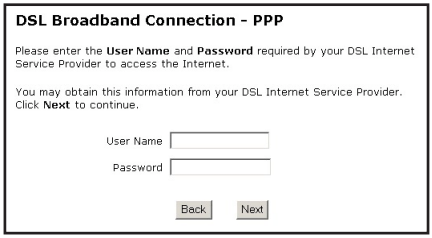
4. In the next screen, follow the on-screen instructions, then click **Next**.


Setup
Before you begin, please make sure you have completed the following steps below. Click Next to continue.
1. Your DSL Modem is connected to your DSL line
2. Your computers are connected to your DSL Modem
Back
Next

5. In the next screen, select the type of connection provided by the ISP by clicking in the circle next to **PPPoE** or **PPPoA**. This information should be provided by the ISP.



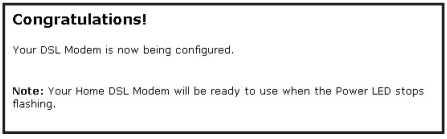
6. Enter the **User Name** and **Password** provided by the ISP in the "DSL Broadband Connection - PPP" screen. Click **Next**.


DSL Broadband Connection - PPP
Please enter the User Name and Password required by your DSL Internet Service Provider to access the Internet.
You may obtain this information from your DSL Internet Service Provider. Click Next to continue.
User Name
Password
Back
Next

7. Click **Save and Restart** in the "Save and Restart" screen.

Save and Restart
Please click the Save and Restart button below to save your settings and restart your DSL Modem.
Save and Restart

8. The "Congratulations" screen appears. The Modem is successfully configured.

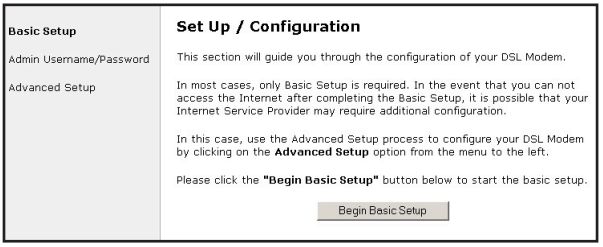

Congratulations!
Your DSL Modem is now being configured.
Note: Your Home DSL Modem will be ready to use when the Power LED stops flashing.

The Power light flashes rapidly while the Modem restarts, then glows steadily green when fully operational. The Internet light will also glow steadily green. The Modem is now configured and users can start surfing the Web.
If an error stating the Web browser was unable to connect to the Internet appears, check the configuration settings. Ensure all the information required by the ISP is entered correctly.

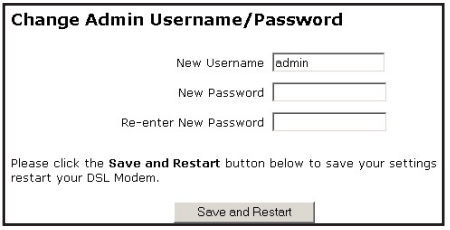
Changing the Admin User Name and Password

To create or change the admin user name and password, controlling access to the Modem's Web Configuration screens, follow these instructions:

1. From the Setup/Configuration screen, select **Admin Username/Password** from the menu on the left side.


Basic Setup
Admin Username/Password
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Modem.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Modem by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

2. The "Change Admin Username/Password" screen appears. Enter a new user name (optional) in the "New Username" text box, then a password in the "New Password" text box. Re-enter the password in the "Re-enter New Password" text box. Make sure to write the user name and password down and keep them in a secure location. They will be needed to access to the Modem's Web Configurations screens in the future.


Change Admin Username/Password
New Username
admin
New Password
Re-enter New Password
Please click the Save and Restart button below to save your settings restart your DSL Modem.
Save and Restart

3. Click "Save and Restart" at the bottom of the screen.

4. The "Save and Restart" page appears. Click "Save and Restart" to save the settings changed in the Change Admin Username/Password screen.

Save and Restart
Please click the Save and Restart button below to save your settings and restart your DSL Modem.
Save and Restart

Once the Modem has rebooted, the password is active. To access the Modem's Web Configuration screens, the admin username and password must be entered.

Using Advanced Setup

4

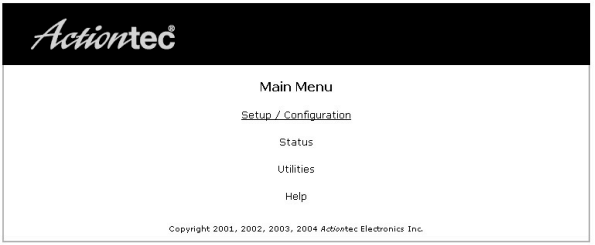
This chapter contains information concerning the advanced setup features of the Modem, such as network settings, remote management, and Web site blocking.

Accessing Advanced Setup

To access the Advanced Settings configuration screens:

1. Open a Web browser. In the address bar enter:
   `http://192.168.0.1`
   then press **Enter** on the keyboard.

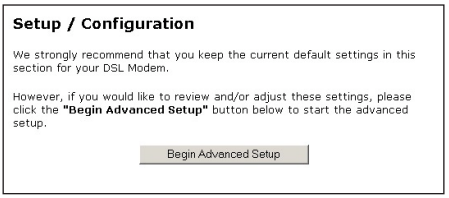
2. The "Main Menu" screen appears. Select **Setup/Configuration**.



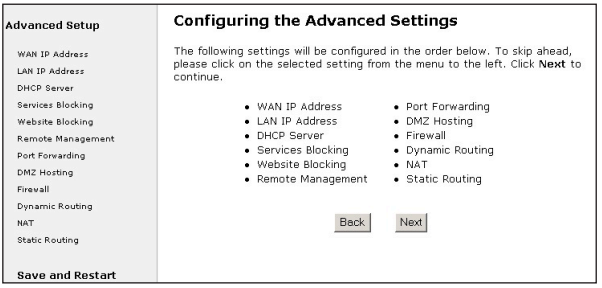
3. In the "Set Up/Configuration" screen, read the instructions, then select **Advanced Setup** from the menu on the left side.

Basic Setup
Admin Username/Password
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Modem.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Modem by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

4. In the next screen, read the recommendations. To perform an advanced setup on the Modem, click **Begin Advanced Setup**.


Setup / Configuration
We strongly recommend that you keep the current default settings in this section for your DSL Modem.
However, if you would like to review and/or adjust these settings, please click the "Begin Advanced Setup" button below to start the advanced setup.
Begin Advanced Setup

5. The "Configuring the Advanced Settings" screen appears. To check all the settings, or if unsure of which settings to modify, select **Next**. To modify a specific configuration, click on its name in the menu bar on the left.



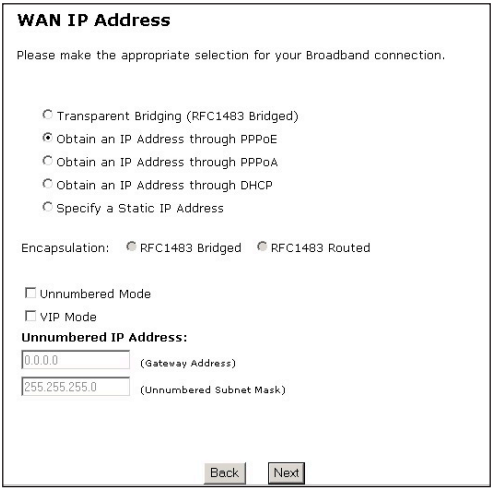
☞ ***Note***: To save changes made in any of the Advanced Setup screens, click Save and Restart at the bottom of the gray menu on the left side of the screen.

WAN IP Address

Selecting **WAN IP Address** in the "Configuring the Advanced Settings" screen generates the "WAN IP Address" screen. WAN IP Address allows manual set up of the IP address of the Modem. There are five ways to do this: **Transparent Bridging, Obtain an IP Address through PPPoE**, **Obtain an IP Address Through PPPoA**, **Obtain an IP Address through DHCP**, and **Specify a Static IP Address**.

☞ ***Note***: Some DSL providers use PPPoE/PPPoA to establish communication with an end user. Other types of broadband Internet connections (such as fixed point wireless) may use either DHCP or static IP address. If unsure about which connection is present, check with the Internet Service Provider (ISP) before continuing.

After selecting a connection type, click **Next** to continue configuring the connection.

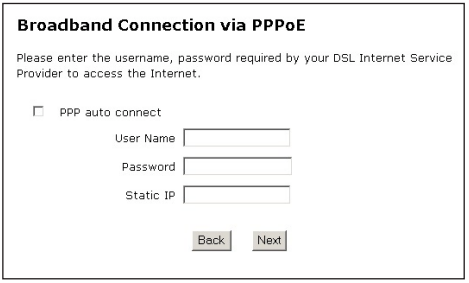


Transparent Bridging

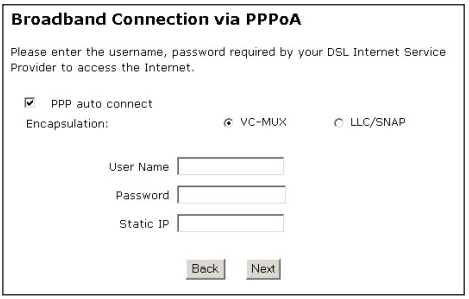
Select this option to use the Modem as a transparent bridge. This option should only be used if the Modem is being used to connect only one computer to the Internet via a DSL connection. When the Modem is being used as a transparent bridge, it does not provide any firewall security.

Obtain an IP Address through PPPoE or PPPoA

Select one of these options to allow the Modem to use the Point-to-Point over Ethernet (PPPoE) or Point-to-Point over ATM (PPPoA) protocol.
"**Broadband Connection via PPPoE" screen:**



"Broadband Connection via PPPoA" screen:



If a **User Name**, **Password** and/or **Static IP** was entered in the Installation Buddy, it should be displayed in the "Broadband Connection via PPPoE/PPPoA" screen. If not, enter the information now. If the information is unavailable, contact the ISP.

PPP Auto Connect

If **PPP auto connect** is activated (by clicking in the appropriate check box), the Modem will attempt to automatically redial the PPP connection if it is dropped or disconnected during an online session. *Action*tec recommends activating PPP Auto Connect.

Encapsulation (PPPoA only)

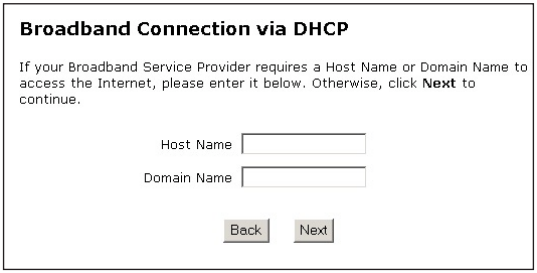
Select one of the encapsulation options, based on information received from the ISP.

Obtain an IP Through DHCP

Select this option if the IP service is configured to use RFC 1483 Bridged or Routed (used for configurations without a static IP assigned by an ISP). In this mode, the Modem will query the ISP to receive the IP address and routing information, which will terminate at the Modem, as opposed to the IP address and routing information being bridged to terminate at the computer. This allows the use of the router capabilities for the Local Area Network (LAN).

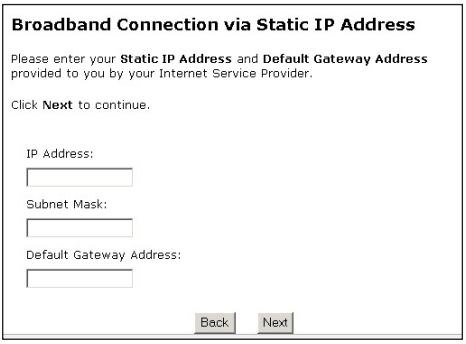
Some ISPs need to authenticate their end users with a **Host Name** and/or **Domain Name**. If this is the case, check with the ISP for a host name and domain name and enter them in the appropriate text boxes in the "Broadband Connection via DHCP" screen. If the ISP does not require these settings, leave the text boxes blank.

☞ ***Note***: Contact the ISP if unsure of the proper configuration.


Broadband Connection via DHCP
If your Broadband Service Provider requires a Host Name or Domain Name to access the Internet, please enter it below. Otherwise, click Next to continue.
Host Name
Domain Name
Back
Next

Specify a Static IP Address

Select this option if the ISP service is configured to use RFC 1483 Bridged or Routed using a static IP Address. Enter the **IP Address**, **Subnet Mask**, and **Default Modem Address** provided by the ISP in the "Broadband Connection via Static IP Address" screen, which causes the IP address and routing information to terminate at the Modem, as opposed to the IP address and routing information being bridged to terminate at the computer. This allows the use of the router capabilities for the Local Area Network (LAN).


Broadband Connection via Static IP Address
Please enter your Static IP Address and Default Gateway Address provided to you by your Internet Service Provider.
Click Next to continue.
IP Address:
Subnet Mask:
Default Gateway Address:
Back
Next

☞ ***Note***: Contact the ISP if unsure of the proper configuration.

Encapsulation

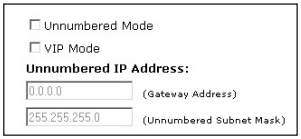
If the Modem is configured to obtain an IP address through DHCP or to specify a static IP address, select the appropriate encapsulation option used by the ISP (**RFC 1483 Bridged** or **RFC 1483 Routed**).

☞ ***Note***: Contact the ISP if unsure of the proper configuration.

Unnumbered Mode/VIP Mode

If a block of public static IP addresses was purchased from the ISP, select **Unnumbered Mode** by clicking in the appropriate check box. Then, enter the **IP Address** and **Subnet Mask** in the "Modem Address" and "Unnumbered Subnet Mask" text boxes below the "Unnumbered IP Address." Click **Next**, then click **Save and Restart** to make all changes permanent.

The Unnumbered Mode feature automatically configures the appropriate IP routing for the IP Address block. The IP route will bypass NAT, enabling the public IPs to be routed WAN-to-LAN, as well as LAN-to-WAN.



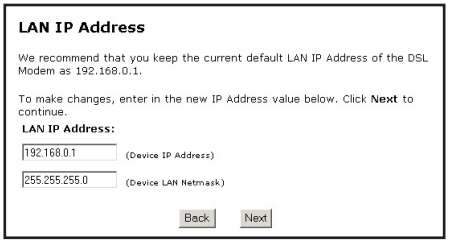
Note: The IP Address information should be obtained from the ISP when purchasing a block of public static IP address. Contact the ISP if this information was not received.

VIP Mode - This feature is used in conjunction with Unnumbered Mode. When VIP Mode is activated, the Modem uses NAT for private IP addressing for the local area network (LAN), allowing both public IP addressing and private IP addressing to be configured to the LAN simultaneously, while the DHCP server is reserved for private IP addressing. All computers using public IP addresses with Unnumbered Mode must have the public IP addresses statically assigned. Enter the static IP address in the text boxes below "Unnumbered IP Address."

After configuring your settings, click **Next**, then click **Save and Restart** to make all changes permanent.

LAN IP Address

Selecting **LAN IP Address** in the "Configuring the Advanced Settings" screen generates the "LAN IP Address" screen.


LAN IP Address
We recommend that you keep the current default LAN IP Address of the DSL Modem as 192.168.0.1.
To make changes, enter in the new IP Address value below. Click Next to continue.
LAN IP Address:
192.168.0.1
(Device IP Address)
255.255.255.0
(Device LAN Netmask)
Back
Next

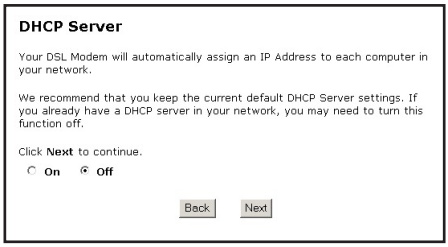
The values in the "Device IP Address" and "Device LAN Netmask" text boxes are the IP address and subnet mask of the Modem as seen on the network. These values can be modified for your LAN network, but *Action*tec recommends keeping the default factory settings (IP address 192.168.0.1; subnet mask 255.255.255.0).

☞ ***Note***: If the Modem's LAN IP address is modified, ensure the DHCP server range is within the same subnet. For more information, see "DHCP Server Configuration."

After changing settings, click Next or Back to continue, or Save and Restart to make all changes permanent.

DHCP Server

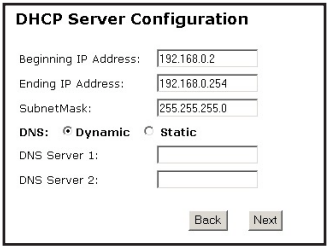
Selecting **DHCP Server** in the "Configuring the Advanced Settings" screen generates the "DHCP Server" screen. The Modem has a built-in DHCP (Dynamic Host Configuration Protocol) server that automatically assigns a different IP address to each computer on the network, eliminating IP address conflicts.
The factory default setting is **On**. To disable the DHCP server, select **Off**.


DHCP Server
Your DSL Modem will automatically assign an IP Address to each computer in your network.
We recommend that you keep the current default DHCP Server settings. If you already have a DHCP server in your network, you may need to turn this function off.
Click Next to continue.
On
Off
Back
Next

*Action*tec strongly recommends leaving the DHCP Server option **On**. If the DHCP Server option is **Off**, ensure the IP addresses of the networked computers are on the same subnet as the IP address of the Modem. For more information, see "DHCP Server Configuration."

DHCP Server Configuration

Clicking **Next** in the "DHCP Server" screen (if the DHCP server is activated) generates the "DHCP Server Configuration" screen. Change IP address range and DNS server information here.



Beginning IP Address

The "Beginning IP Address" is the IP address at which the DHCP server starts assigning IP addresses. *Action*tec recommends keeping the factory default setting (192.168.0.2).

Ending IP Address

The "Ending IP Address" is the IP address at which the DHCP server stops assigning IP addresses. *Action*tec recommends keeping the factory default settings (192.168.0.254).

The beginning and ending IP addresses define the IP address range of the Modem. If the default values are left intact, the Modem supplies a unique IP address between 192.168.0.2 and 192.168.0.254 to each computer on the network. Note that the first three groups of numbers of the addresses are identical; this means they are on the same subnet. The IP address of the Modem must be on the same subnet as the IP address range it generates. For instance, if the Modem's IP address is changed to 10.33.222.1, set the beginning IP address to 10.33.222.2, and the ending IP address to 10.33.222.254.

DNS (Dynamic or Static)

These options designate the type of DNS server provided by the ISP. If the ISP provided DNS server information, select the type here. If not, leave as is.

DNS Server 1

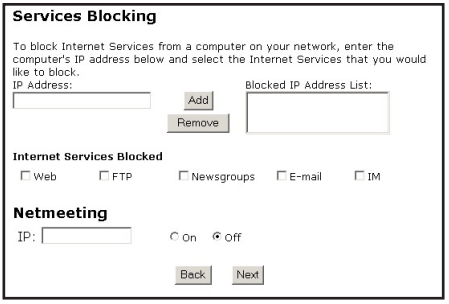
"DNS Server 1" is the primary DNS server provided by the ISP. If the ISP provided DNS server information, enter it here. If not, leave the text box intact.

DNS Server 2

"DNS Server 2" is the secondary DNS provided by the ISP. If the ISP provided secondary DNS server information, enter it here. If not, leave the text box intact.

Services Blocking

Selecting **Services Blocking** in the "Configuring the Advanced Settings" screen generates the "Services Blocking" screen.



To modify Internet privileges (Web, FTP, Newsgroups, etc.) for the computers on the network:

1. Enter the computer's IP address in the **IP Address** text box.
2. Select the Internet service(s) to be blocked.
3. Click **Add** to enter the computer's IP address in the "Blocked IP Address List" text box.
4. To remove blocked services, select the computer's IP address in the "Blocked IP Address List" text box and click **Remove**.

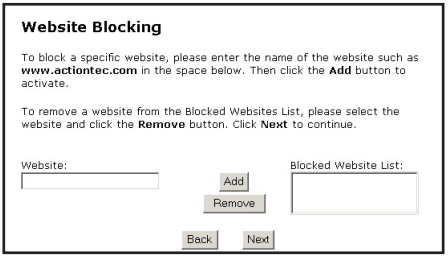
Netmeeting

If a computer on the network uses Netmeeting, enable Netmeeting by clicking the circle next to "On" and entering the IP address of the computer. Click **Next**, then click **Save and Restart** to apply the settings. If Netmeeting is not needed, click the circle next to "Off."

☞ ***Note***: Netmeeting is used for NAT/Private IP addressing only. If the computer is configured for Unnumbered Mode and has a public IP address, Netmeeting does not have to be enabled.

Website Blocking

Selecting **Website Blocking** in the "Configuring the Advanced Settings" screen generates the "Website Blocking" screen. This feature enables the Modem to block Web sites to all computers on the network. To block a Web site, enter the address of the Web site in the "Website" text box and click **Add**. The blocked Web site address is displayed in the "Blocked Website List" text box, and will not be available to computers on the network. To remove a blocked Web site, click on it in the "Blocked Website List," then click **Remove**. Website Blocking supports blocking up to 50 Web sites.


Website Blocking
To block a specific website, please enter the name of the website such as www.actiontec.com in the space below. Then click the Add button to activate.
To remove a website from the Blocked Websites List, please select the website and click the Remove button. Click Next to continue.
Website:
Add
Remove
Blocked Website List:
Back
Next

Remote Management

Selecting **Remote Management** in the "Configuring the Advanced Settings" screen generates the "Remote Management" screen. Remote Management allows access to the Modem through the Internet via another computer. *Action*tec recommends leaving the Remote Management **Off** (the factory default setting).

Remote Management
The default Remote Management setting is Off for security reasons. If you want to access your DSL Modem remotely, please select On.
Remote Management:
On
Off
Back
Next

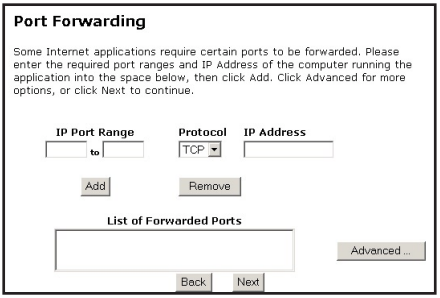
To access the Modem from the Internet, activate Remote Management by selecting **On** and writing down the WAN IP address of the Modem (see "WAN IP Address"). On a computer outside of the network, open a Web browser and enter the Modem's WAN IP address in the address text box. The Modem's Main Menu (or a password prompt, if a password has been set) appears in the browser window.

☞ ***Note***: Before Remote Management can be activated, the administrator password must be set. To do this, go to the Setup screen and select Change Admin Password. Follow the instructions in the subsequent screens (see page 32 for more details).

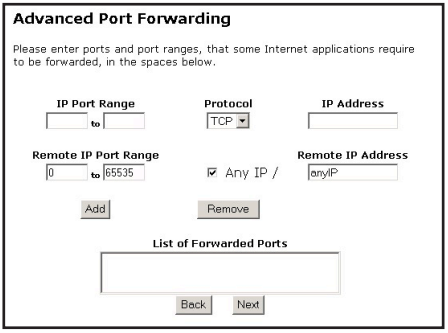
Port Forwarding

Selecting **Port Forwarding** in the "Configuring the Advanced Settings" screen generates the "Port Forwarding" screen. Port forwarding allows certain programs to bypass the Modem's built-in firewall, allowing access to parts of the network (for hosting a Web or FTP server, for example). To use port forwarding, enter the IP port range in the "IP Port Range" text boxes. (If more than 500 ports are needed, *Action*tec recommends using DMZ Hosting. See "DMZ Hosting" on page 46 for more information.) Choose the protocol type from the "Protocol" list box, then enter the IP address of the computer on the network to be used as a host. Click **Add**. The forwarded ports appear in the "List of Forwarded Ports" text box.

To remove forwarded ports, highlight them, then click **Remove**.


Port Forwarding
Some Internet applications require certain ports to be forwarded. Please enter the required port ranges and IP Address of the computer running the application into the space below, then click Add. Click Advanced for more options, or click Next to continue.
IP Port Range
to
Protocol
TCP
IP Address
Add
Remove
List of Forwarded Ports
Advanced ...
Back
Next

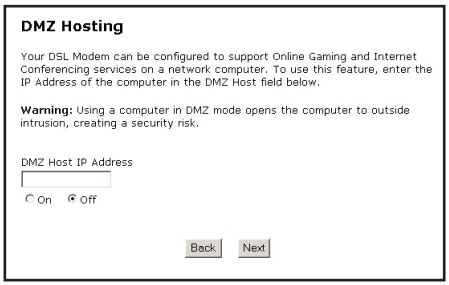
Clicking **Advanced** brings up the "Advanced Port Forwarding" screen.



In this screen, the user can allow only certain IP addresses to access forwarded ports. Enter the port range of the forwarded ports in the "Remote IP Port Range" text boxes, enter the IP address to be allowed access in the "Remote IP Address" text box, then click **Add**. The active forwarded ports will appear in the "List of Forwarded Ports" text box.
To deactivate a forwarded port, select it from the "List of Forwarded Ports" text box, then click **Remove**.

DMZ Hosting

Selecting **DMZ Hosting** in the "Configuring the Advanced Settings" screen generates the "DMZ Hosting" screen. To use DMZ hosting, enter the IP address of the computer on the network to be used as a DMZ host in the "DMZ Host IP Address" text box, then click **On**.


DMZ Hosting
Your DSL Modem can be configured to support Online Gaming and Internet Conferencing services on a network computer. To use this feature, enter the IP Address of the computer in the DMZ Host field below.
Warning: Using a computer in DMZ mode opens the computer to outside intrusion, creating a security risk.
DMZ Host IP Address
On
Off
Back
Next

DMZ hosting is used to support online gaming and Internet conferencing services. These programs usually require multiple open ports, making the network accessible from the Internet. DMZ hosting symbolically places the DMZ host computer outside of the Modem's network. Access to the network resources while DMZ hosting is active is blocked. *Action*tec recommends activating DMZ hosting only as long as necessary.

Warning: The DMZ host computer will be vulnerable to computer hackers on the Internet while in DMZ mode.

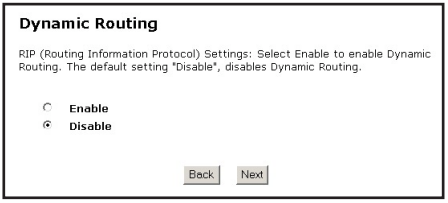
Firewall

Selecting **Firewall** in the "Configuring the Advanced Settings" screen generates the "Firewall Security Level" screen. Select the level of security needed for the network. See Appendix F on page 91 for details concerning each level of security.

Firewall Security Level
The default Firewall Security Level is set to "Basic". You can change the Firewall Security Level to suit your networking needs.
(Note: Once you have selected a security level, all IP traffic other than the policies specified will be blocked by the Firewall. Refer to the User Manual for detailed information on Firewall policies.)
High
Medium
Low
Basic
Back
Next

Dynamic Routing

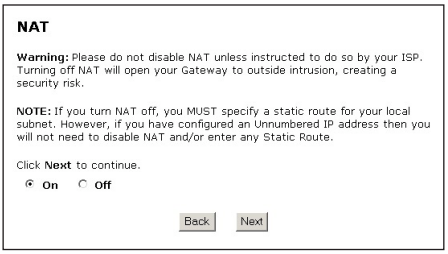
Selecting **Dynamic Routing** in the "Configuring the Advanced Settings" screen generates the "Dynamic Routing" screen.


Dynamic Routing
RIP (Routing Information Protocol) Settings: Select Enable to enable Dynamic Routing. The default setting "Disable", disables Dynamic Routing.
Enable
Disable
Back
Next

If a router or gateway is set up behind the Modem in the network configuration, consult the documentation that came with the router/gateway to see what kind of Dynamic Routing is required operate it with the Modem, then select the appropriate option in this screen.

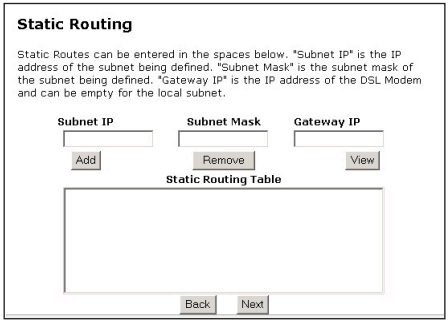
NAT (Network Address Translation)

Selecting **NAT** in the "Configuring the Advanced Settings" screen generates the "NAT" screen. The Modem's basic firewall security is based on NAT. Disabling NAT allows the computers connected to the Modem to be accessed by outside parties. Do not turn NAT off unless instructed to do so by the ISP.


NAT
Warning: Please do not disable NAT unless instructed to do so by your ISP. Turning off NAT will open your Gateway to outside intrusion, creating a security risk.
NOTE: If you turn NAT off, you MUST specify a static route for your local subnet. However, if you have configured an Unnumbered IP address then you will not need to disable NAT and/or enter any Static Route.
Click Next to continue.
On
Off
Back
Next

Static Routing

Selecting **Static Routing** in the "Configuring the Advanced Settings" screen generates the "Static Routing" screen. Enter the addresses in their respective text boxes, then click **Add**. The address will appear in the "Static Routing Table." To remove an address, highlight it by clicking on it in the Static Routing Table, then click **Remove**.


Static Routing
Static Routes can be entered in the spaces below. "Subnet IP" is the IP address of the subnet being defined. "Subnet Mask" is the subnet mask of the subnet being defined. "Gateway IP" is the IP address of the DSL Modem and can be empty for the local subnet.
Subnet IP
Subnet Mask
Gateway IP
Add
Remove
View
Static Routing Table
Back
Next

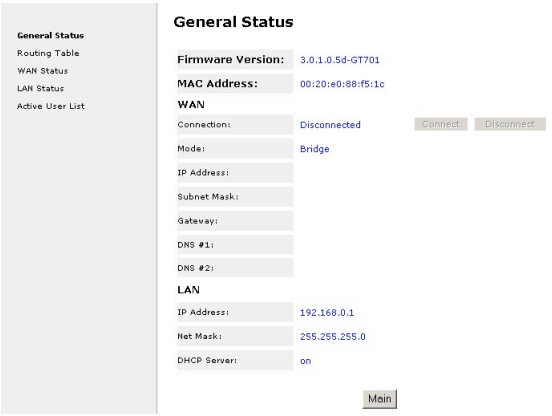
Viewing the Modem's Settings

5

After configuring the Modem, settings can be viewed by selecting **Status** in the Main Menu. In the menu on the left side of the screen, there are other Status options available: **Routing Table**, **WAN Status**, **LAN Status**, and **Active User List**.

Status

Selecting "Status" from the Main Menu screen generates the "General Status" screen.



No settings (other than connecting or disconnecting from the Internet) can be changed from the General Status screen.

Firmware Version

Displays the firmware version the Modem is currently running.

MAC Address

Displays the MAC (Media Access Control) address of the Modem.

WAN - Connection

Displays the state of the connection to the ISP service (Connected or Disconnected).

WAN - Mode

Displays the type of connection used to communicate with the ISP.

WAN - IP Address

Displays the IP address the ISP assigned to the Modem.

WAN - Subnet Mask

Displays the subnet mask address the ISP assigned to the Modem.

WAN - Modem

Displays the Modem address (for the IP address and subnet mask) the ISP assigned to the Modem.

WAN - DNS #1 & #2

Displays the domain name server address(es) the ISP assigned to the Modem.

LAN - IP Address

Displays the local area network's (LAN) IP address.

LAN - Net Mask

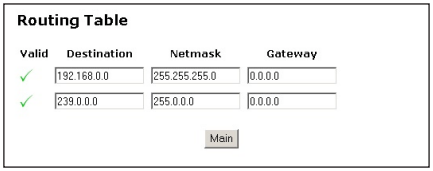
Displays the subnet mask address configured for the LAN IP address.

LAN - DHCP Server

Displays the state of the DHCP server (On or Off).

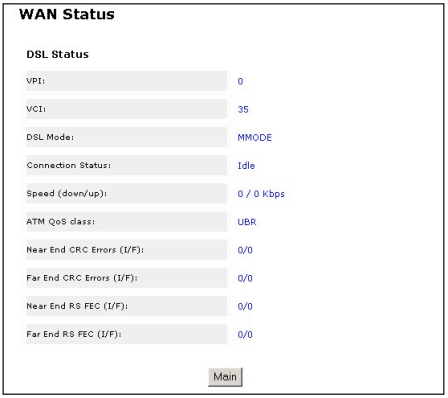
Routing Table

Selecting **Routing Table** from the "General Status" screen generates the "Routing Table" screen. This screen displays on overview of the Modem's routes.



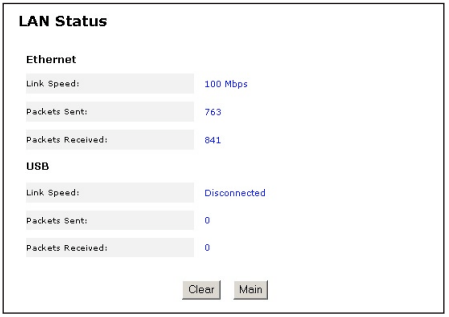
WAN Status

Selecting **WAN Status** from the "General Status" screen generates the "WAN Status" screen. This screen displays on overview of the Modem's WAN (wide area network) connection.



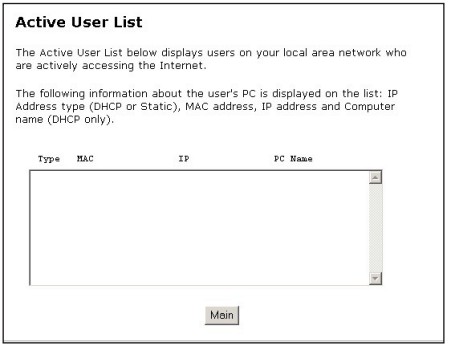
LAN Status

Selecting **LAN Status** generates the "LAN Status" screen. This screen displays on overview of the Modem's LAN (local area network) port connections.



Active User List

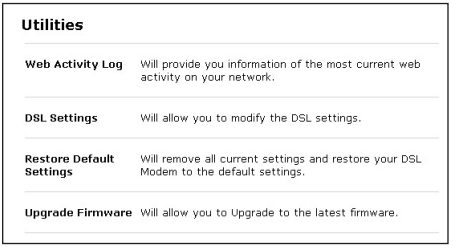
Selecting **Active User List** generates the "Active User List" screen. This screen displays a list of the users currently connected to the Modem accessing the Internet with Network Address Translation (NAT) security activated.


Active User List
The Active User List below displays users on your local area network who are actively accessing the Internet.
The following information about the user's PC is displayed on the list: IP Address type (DHCP or Static), MAC address, IP address and Computer name (DHCP only).
Type
MAC
IP
PC Name
Main

Using Utilities

6

To access the Modem's Web-based Utilities, select **Utilities** from the "Main Menu" screen. The "Utilities" screen appears.


Utilities
Web Activity Log
Will provide you information of the most current web activity on your network.
DSL Settings
Will allow you to modify the DSL settings.
Restore Default Settings
Will remove all current settings and restore your DSL Modem to the default settings.
Upgrade Firmware
Will allow you to Upgrade to the latest firmware.

From this screen, the Web activity log can be viewed, the DSL settings changed, the Modem's factory default settings restored, and the Modem's firmware upgraded.

Web Activity Log

The Web Activity Log provides information about the Web sites each computer on the Modem's network has visited. To access the Web Activity Log, select **Web Activity Log** from the "Utilities" screen.

Auto Refresh

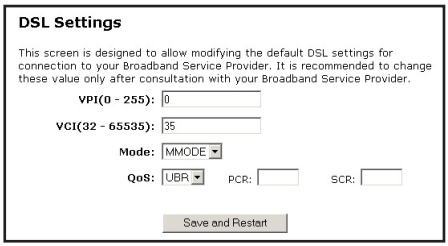
To set the Web Activity Log screen to automatically refresh at certain intervals, activate the circle next to "Auto Refresh Every" at the bottom of the Web Activity Log screen, then enter a time value (in seconds) in the text box, or click on the down arrow and select a time value from the menu that appears. The Web Activity Log will refresh at the chosen interval.

Manual Refresh

To set the Web Activity Log screen to manual refresh, activate the circle next to "Manual Refresh" at the bottom of the Web Activity Log screen. To refresh the Web Activity Log screen, click **Refresh**.

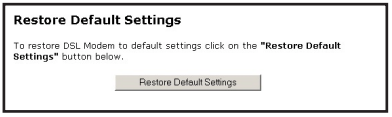
DSL Settings

To access the "DSL Settings" screen, select **DSL Settings** from the "Utilities" screen. The Modem's VPI, VCI, Mode, and QoS (Quality of Service) settings can be changed from here. *Action*tec recommends not changing these values without consulting the ISP.


DSL Settings
This screen is designed to allow modifying the default DSL settings for connection to your Broadband Service Provider. It is recommended to change these value only after consultation with your Broadband Service Provider.
VPI(0 - 255):
0
VCI(32 - 65535):
35
Mode:
MMODE
QoS:
UBR
PCR:
SCR:
Save and Restart

Restore Default Settings

To restore the Modem to its factory default settings, select **Restore Default Settings** from the "Utilities" screen. When the "Restore Default Settings" screen appears, click **Restore Default Settings**. Any changes made to the Modem's settings will be lost and the factory default settings will be restored. During this process, the Modem's Power light flashes and the Modem is disabled.

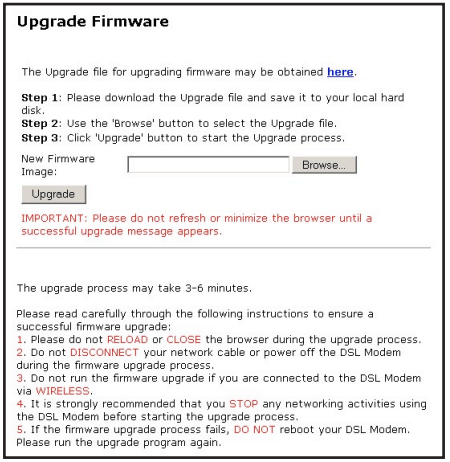

Restore Default Settings
To restore DSL Modem to default settings click on the "Restore Default Settings" button below.
Restore Default Settings

Warning: Do not unplug the Power cord from the Modem or switch the On/Off switch to off during the Restore Default Settings process. Doing so may result in permanent damage to the Modem.

When the Power light stops flashing and glows steadily green, the Modem is fully operational, and the default settings have been restored.

Upgrade Firmware

Selecting **Upgrade Firmware** in the "Utilities" screen generates the "Upgrade Firmware" screen. *Action*tec periodically posts firmware upgrades to enhance the capabilities and boost the performance of the Modem. Follow the on-screen instructions to upgrade the Modem's firmware.


Upgrade Firmware
The Upgrade file for upgrading firmware may be obtained here.
Step 1: Please download the Upgrade file and save it to your local hard disk.
Step 2: Use the 'Browse' button to select the Upgrade file.
Step 3: Click 'Upgrade' button to start the Upgrade process.
New Firmware Image:
Browse...
Upgrade
IMPORTANT: Please do not refresh or minimize the browser until a successful upgrade message appears.
The upgrade process may take 3-6 minutes.
Please read carefully through the following instructions to ensure a successful firmware upgrade:
1. Please do not RELOAD or CLOSE the browser during the upgrade process.
2. Do not DISCONNECT your network cable or power off the DSL Modem during the firmware upgrade process.
3. Do not run the firmware upgrade if you are connected to the DSL Modem via WIRELESS.
4. It is strongly recommended that you STOP any networking activities using the DSL Modem before starting the upgrade process.
5. If the firmware upgrade process fails, DO NOT reboot your DSL Modem. Please run the upgrade program again.

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Troubleshooting 7

This chapter contains a list of problems that may be encountered while using the Modem, and techniques to solve them. Note that these techniques may not be successful in all cases. Also included is a list of frequently asked questions.

Troubleshooting

Cannot Use the Internet

Physical Connections

Ensure the Power light is on, as well as the appropriate lights for any active connections (Ethernet or USB). If the connection is not active, reconnect the appropriate cable or adapter.

Connection to the Modem

Check that the default IP address the computer is receiving is correct by selecting **Start**, **Run**, and then typing **`ipconfig`** in the "Open" text box. The IP address should be 192.168.0.x (with "x" representing a number from 2 through 255), and the Default Gateway address should be 192.168.0.1. If not, restart the computer to allow the Modem to assign a IP address. If a static IP address was previously assigned to the computer, it will need to be removed before the Modem can dynamically assign a new IP address. After the computer restarts, check the IP address of the computer again. If it is still not correct, type **`ipconfig /?`** (note the space after **`ipconfig`**) to release and renew the IP address.
Once the IP address has been verified as correct, open a Web browser. In the "Address" text box, type **`192.168.0.1`** and click **Go**. The Modem's Web Configurator Main Menu screen appears, verifying the Modem's active connection.

Connection to the Internet

To verify the Modem's connection to the Internet, open a Web browser. In the "Address" text box, type `192.168.0.1` and click **Go**. The Modem's Web Configurator Main Menu appears. Select **Status**, and once the "Status" screen appears, verify that "Connected" is displayed in the "WAN" section of the screen. If not, power cycle the Modem by unplugging and then replugging the Power cord. After power cycling the Modem, check the connection status again. If still disconnected, go to the Main Menu, select **Setup**, and go through a Basic Setup procedure, making sure to enter all correct selections and/or entries for the connection. After saving all settings and restarting the Modem, check the connection status again. If still disconnected, unplug the Modem's Power cord and leave it unplugged for at least 10 minutes. Replug the Power cord, restart the Modem, and check the connection again.

Frequently Asked Questions

This section contains a list of questions concerning the Modem, and answers to the questions.

General

I have run out of Ethernet ports on my Modem. How do I add more computers?

Plugging in an Ethernet hub or switch can expand the number of ports on the Modem. Connect a standard Ethernet cable from the "Uplink" port of the new hub or switch to the Ethernet port on the Modem, then connect additional computers to the Ethernet hub or switch.

Which protocols does the Modem support?

The internal LAN connections support multiple protocols (e.g. TCP/IP, NetBEUI, IPX/SPX, and AppleTalk). The External WAN connection supports only TCP/IP.

Which connection speeds does the Modem support?

The LAN connections on the Modem support 10/100 Mbps. The WAN connection supports 8 Mbps because of the physical restrictions placed on broadband connections.

Will my Xbox work with the Modem?

Yes, the Modem is compatible with the Xbox. You will need to set a static IP address on the Xbox in the Xbox live network settings, and forward ports 3074 (both UDP and TCP), 53 (both UDP and TCP), and 88 (UDP) if you run into DSL resolution errors.

Is the Modem flash-upgradeable? How do I do it?

Yes, the firmware is upgradeable. You can find a link to the firmware site under "Utilities" in the Web-based configurator (see page 53).

Network

I use my laptop at work and at home. Is there something special I need to do to make it work in both places?

Yes. You must reconfigure your network settings, including Workgroup, Domain, Password, User name, IP addressing, and any other specific settings used by your company. You may also use third-party software like NetSwitcher to automatically switch between different configurations.

What is the valid IP range I can use for my home network?

The valid IP range for the Modem is 192.168.0.2 to 192.168.0.254 by default.

How do I find out which IP address my computer is using?

Windows 95, 98, 98SE, and Me - Select **Start**, **Run**, and type **`winipcfg`**. Press **Enter**. When the "Winipcfg" window appears, ensure your network device is selected.

Windows NT, 2000, and XP - Select **Start**, **Run** and type **`cmd`**. Press **Enter**. When the command screen is displayed, type **`ipconfig`** and press **Enter**.

I used DHCP to configure my network. Do I need to restart my computer to refresh my IP address?

No. Select the appropriate operating system, below, and follow the steps to refresh your IP address.

Windows 95, 98, 98SE, and Me - Go to **Start**, **Run**, type **`winipcfg`**, and press **Enter**. Ensure the Ethernet adapter is selected in the device box. Press the **Release_all** button, then press the **Renew_all** button.

Windows NT 4.0 and 2000 - Go to **Start**, **Run**, type **`cmd`**, and press **Enter**. At the DOS prompt type **`ipconfig /release`**, then type **`ipconfig /renew`**. (Note the space after **`ipconfig`**.)

Windows XP - Unplug the Ethernet cable or wireless card and plug it back in.

Can I run an application located on another computer over the network?

Yes, if the application is designed to run over a network.

Can I play games between computers on my network, or on the Internet?

Yes, if the games were designed for multi-player or LAN play. For specific information about whether a game is capable of Internet or LAN play, refer to the game documentation. Some games require ports to be forwarded to host or join games over the Internet.

I have an FTP or Web server on my network. How can I make it available to users on the Internet?

For a Web server, enable port forwarding for port 8080 to the IP address of the server and set up the Web server to receive on that port, as well. (Configuring the server for static IP address use is recommended.) For an FTP server, enable port forwarding for port 21 to the IP address of the server. (Configuring the server for static IP address use is recommended.)

Connections

How many computers can be connected through the Modem?

The Modem is capable of 254 connections, but having no more than 45 connections is recommended. As the number of connections increases, the available speed for each computer decreases.

Security

What is the default username for the Modem?

The default username for the router is **admin** (all lower case). To activate the password to protect the Modem, change the default password, which is blank by default. Remote management is not available on the Modem until the default password is changed.

Does the Modem function as a firewall?

Yes. The Modem provides its security through the use of NAT firewall, which acts as a physical barrier between your network and the Internet.

What is NAT and how does it protect my network?

NAT (Network Address Translation) is a type of security that masks the private IP addresses of the computers on your network with a single public IP address. With NAT, the private IP address of the computers on your network is never transmitted over the Internet.

Which Virtual Private Networking (VPN) protocols are supported?

The Modem supports pass-through for PPTP, L2TP, and IPSec.

Can I use Internet firewall or security programs with my network?

Because the Modem uses NAT firewall security, it is not necessary to use any other program for security. The use of third-party firewall or Internet security software is not recommended, since certain programs create problems on a private network (BlackIce Defender, Norton Internet Security, and ZoneAlarm, for example).

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Reference

A

This appendix contains information about various topics, including accessing information about your Windows computer.

Locating Computer Information

The following procedure is valid for computers running Windows 98 SE, Me, NT 4.0, 2000, and XP.

1. From the desktop, right-click on **My Computer**.
2. Select **Properties** from the menu that appears.
3. When the "System Properties" window appears, select **General**. The version of the operating system, processor type, and amount of RAM installed in the computer are listed here.
4. Close the System Properties window.
5. From the desktop, double-click on **My Computer**.
6. Right-click the icon representing your hard disk. For example: Local Disk (C:). Some computers have multiple hard disks.
7. From the menu that appears, select **Properties**.
8. When the window appears, select **General**.
9. The free space value is the available space on the hard disk.
10. Close all windows.

Locating Windows Operating System Files

If the operating system files reside on the hard drive of the computer, follow the instructions below to locate them. If the files are not on the hard drive, they must be loaded from the installation disks.

Windows 98 SE

1. From the desktop, click **Start**.
2. When the menu appears, select **Find,** then **Files or Folders**.
3. When the "Find: All Files" window appears, select **Name & Location**.
4. In the "Named" text box, enter:
   ```
   *.cab
   ```
5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.
6. Click **Find Now**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \SYSTEM.
8. The Windows operating system files are located in this directory. Write down the directory path for future reference.
9. Close the Find: All Files window.

Windows Me, 2000

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.

3a. Windows Me: The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
```
*.cab
```

3b. Windows 2000: The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
```
i386
```

4. Click the **down arrow** next to the "Look in" text box and select **My Computer** from the list that appears.

5. Click **Search Now**.

6a. Windows Me: When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \OPTIONS\INSTALL.

6b. Windows 2000: When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINNT \Driver Cache.

7. The Windows operating system files are located in this directory. Write down the directory path for future reference.

8. Close the Search Results window.

Windows NT 4.0

1. From the desktop, click **Start**.

2. When the menu appears, select **Find,** then **Files or Folders**.

3. When the "Find: All Files" window appears, select **Name & Location**.

4. In the "Named" text box, enter:

```
i386
```

5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.

6. Click **Find Now**.

7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\.

8. The Windows operating system files are located in this directory. Write down the directory path (followed by "i386") for future reference.

9. Close the Find: All Files window.

Windows Me, 2000

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.
3. The "Search Results" window appears. In the panel at left titled "What do you want to search for?", click **All files and folders**.
4. Another panel, titled "Search by any or all of the criteria below" appears. In the "Look in" text box, click the **down arrow** and select **My Computer** from the menu that appears.
5. In the "All or part of the file name" text box, enter:
   ```
   i386
   ```
6. Click **Search**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \Driver Cache\.
8. The Windows operating system files are located in this directory. Write down the directory path (followed by "\i386") for future reference.
9. Close the Search Results window.

Setting Up Static IP on the Computer

B

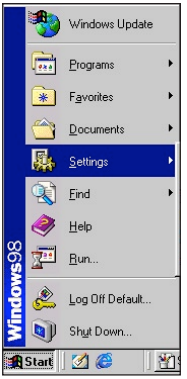
To communicate with the Modem from a computer (to use the Web Configuration Utility, for example), the user may have to switch the IP address settings from DHCP-enabled to static IP, so that the computer and the Modem are on the same network subnet.

To set up static IP on a computer, select the operating system and follow the instructions.

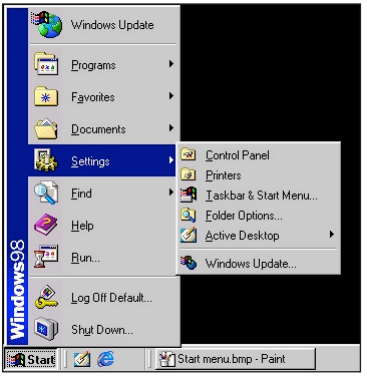
☞ ***Note***: The following procedures are based on the Modem's factory default IP address. If the Modem's IP address has been changed, enter the new IP address when instructed to enter an IP address.

Windows 98 SE

1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.

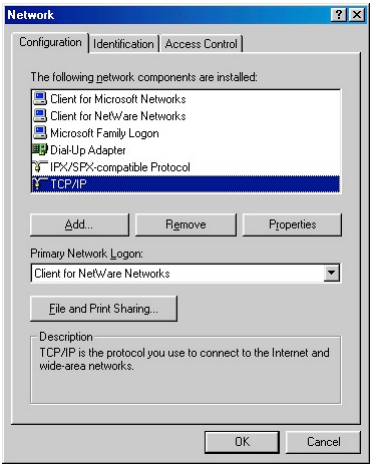


3. Another menu appears. Select **Control Panel**.

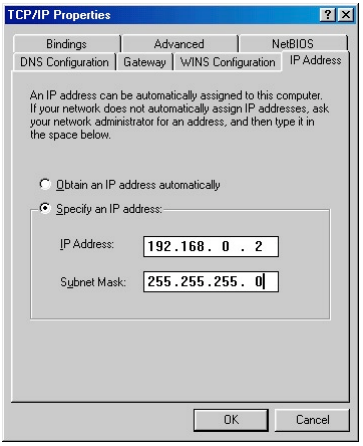


4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Select **IP Address**.



7. In the IP Address tab, make sure the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

9. Enter the following address in the "Subnet mask" text box:

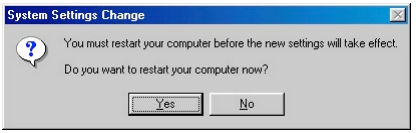
   `255.255.255.0`

   Enter the periods in the address by pressing the space bar on the keyboard.

10. Click **OK**. The TCP/IP Properties window disappears.

11. In the Network window, click **OK**. The Network window disappears.

12. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.

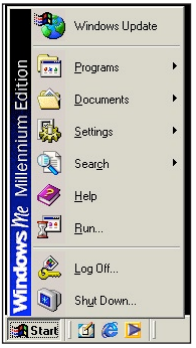

System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

The computer restarts. It is now set up with a static IP address, allowing access to the Modem's Web Configuration Utility.

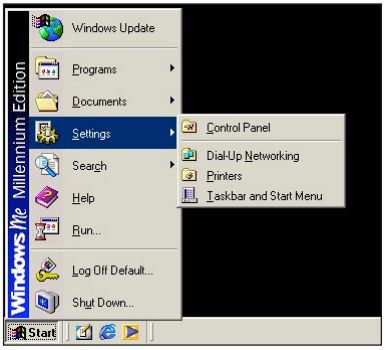
Windows Me

1. From the desktop, click on the **Start** button in the lower left corner.

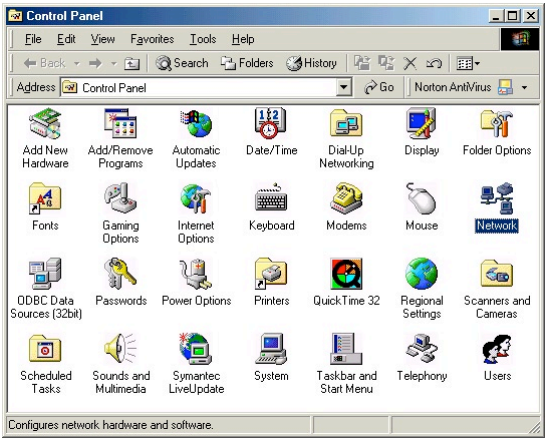
2. From the menu that appears, select **Settings**.



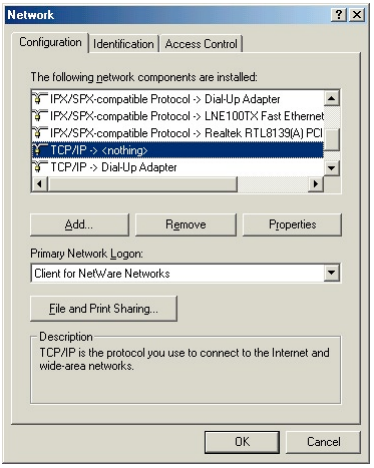
3. Another menu appears. Select **Control Panel**.



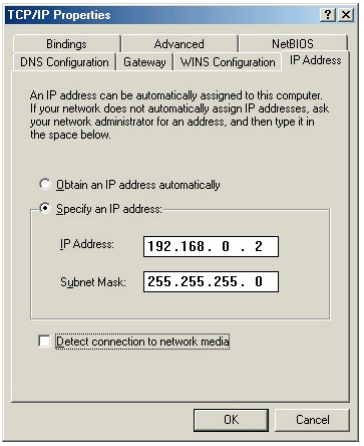
4. When the "Control Panel" window appears, double-click **Network**.



5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Click **IP Address**.


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
192.168. 0 . 2
Subnet Mask:
255.255.255. 0
Detect connection to network media
OK
Cancel

7. In the IP Address tab, make sure the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

9. Enter the following address in the "Subnet mask" text box:

`255.255.255.0`

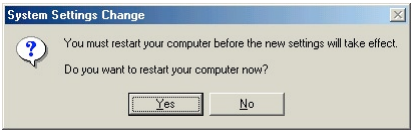
Enter the periods in the address by pressing the space bar on the keyboard.

10. Click **OK**. The TCP/IP Properties window disappears.

11. If there is a check in the box next to "Detect connection to network media," click on it to uncheck the box.

12. In the Network window, click **OK**. The Network window disappears.

13. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

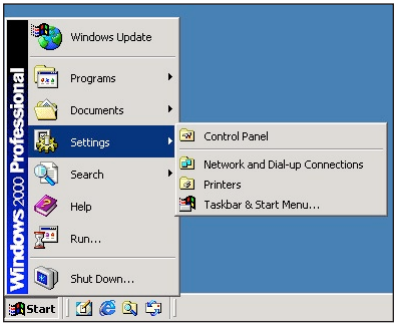
The computer restarts. It is now set up with a static IP address, allowing access to the Modem's Web Configuration Utility.

Windows 2000

1. From the desktop, click on the **Start** button in the lower left corner.

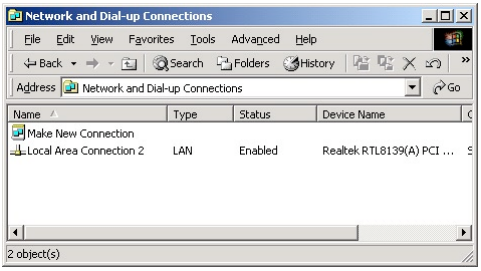
2. From the menu that appears, select **Settings**.

3. Another menu appears. Select **Control Panel**.

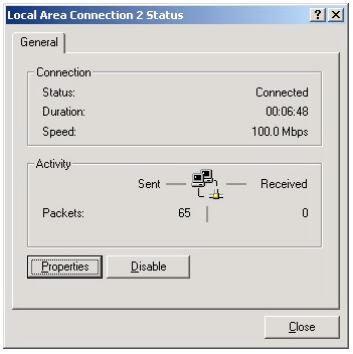


4. When the "Control Panel" window appears, double-click **Network and Dial-up Connections**.

5. In the "Network and Dial-up Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If more than one Local Area Connection is listed, locate the one that corresponds to the network card installed in the computer by finding the name of the network card in the **Device Name** column.

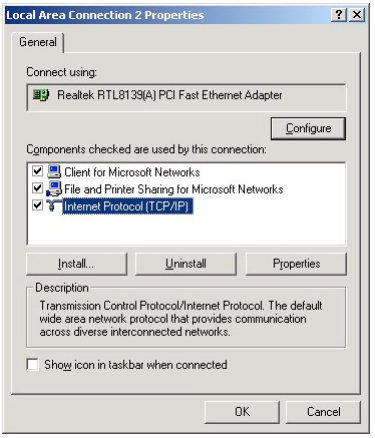

Network and Dial-up Connections
File Edit View Favorites Tools Advanced Help
Back Search Folders History
Address Network and Dial-up Connections
Go
Name Type Status Device Name
Make New Connection
Local Area Connection 2 LAN Enabled Realtek RTL8139(A) PCI ...
2 object(s)

6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

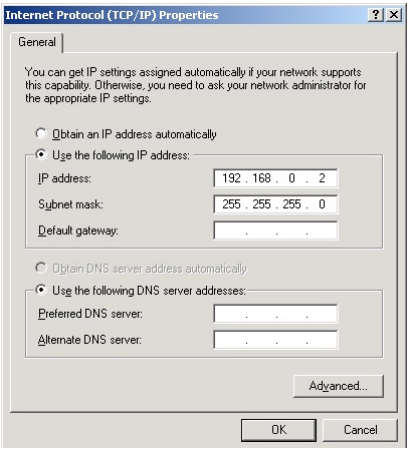


7. The "Local Area Connection Properties" window appears. Click **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

10. In the **General** tab, make sure the circle next to "Use the following IP Address " is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

12. Enter the following address in the "Subnet mask" text box:

`255.255.255.0`

Enter the periods in the address by pressing the space bar on the keyboard.

13. Click **OK**. The "Internet Protocol (TCP/IP) Properties" window disappears.

14 In the "Local Area Connection Properties" window, click **OK**. The Local Area Connection Properties window disappears.

15. Click **Close** in the Local Area Connection Status window. The window disappears.

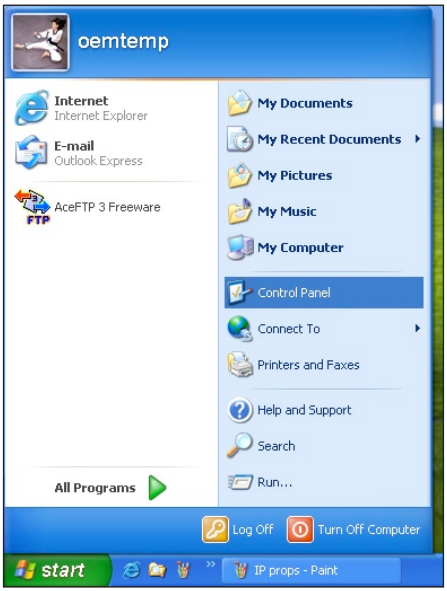
16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer is now set up with a static IP address, allowing access to the Modem's Web Configuration Utility.

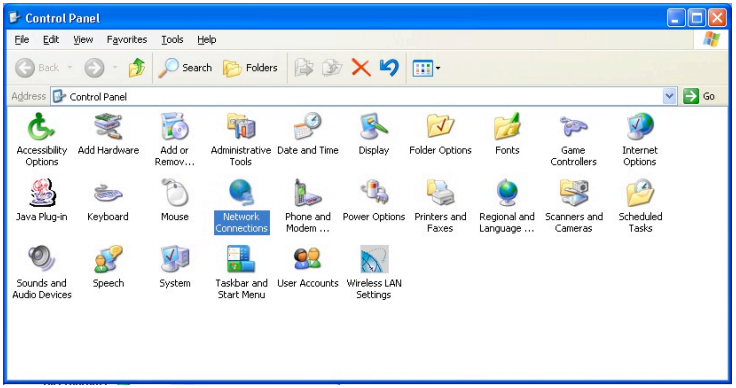
Windows XP

1. From the desktop, click on the **Start** button in the lower left corner.

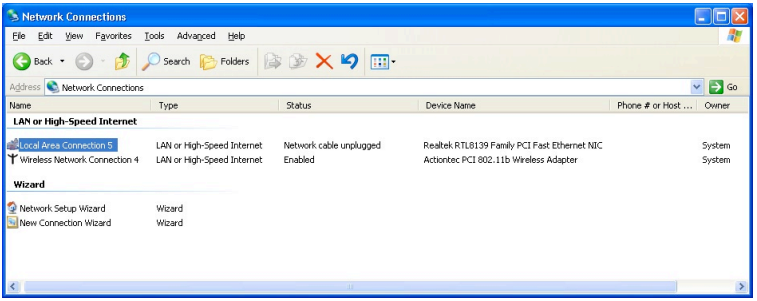
2. From the menu that appears, select **Control Panel**.



3. When the "Control Panel" window appears, double-click **Network Connections**.



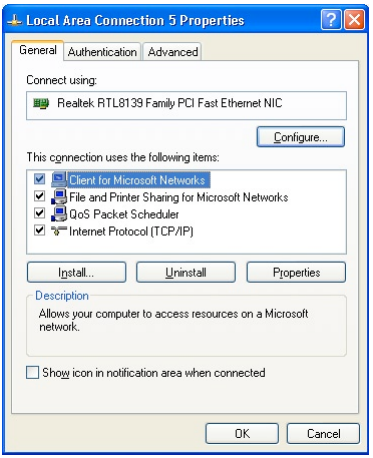
4. In the "Network Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If more than one Local Area Connection is listed, locate the one that corresponds to the network card installed in your computer by finding the name of the network card in the **Device Name** column.


Network Connections
File Edit View Favorites Tools Advanced Help
Back Search Folders
Address Network Connections
Go
Name Type Status Device Name Phone # or Host ... Owner
LAN or High-Speed Internet
Local Area Connection 5 LAN or High-Speed Internet Network cable unplugged Realtek RTL8139 Family PCI Fast Ethernet NIC System
Wireless Network Connection 4 LAN or High-Speed Internet Enabled Actiontec PCI 802.11b Wireless Adapter System
Wizard
Network Setup Wizard Wizard
New Connection Wizard Wizard

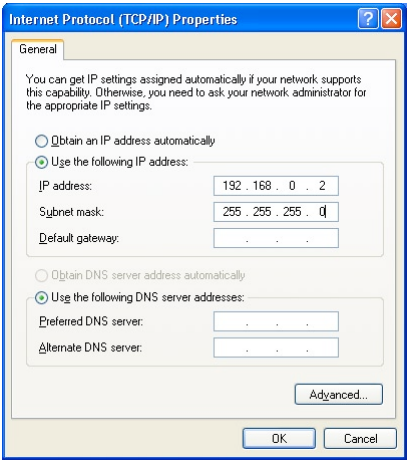
5. The "Local Area Connection Properties" window appears. Select **General**.

☞ ***Note***: If the "Local Area Connection Status" window appears, click **Properties** to continue on to the Local Area Connection Properties window.

6. In the "This connection uses the following items" list box, double-click **Internet Protocol** (TCP/IP).



7. The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

8. In the **General** tab, make sure the circle next to "Use the following IP Address " is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

9. Enter the following address in the "IP Address" text box:
   `192.168.0.2`
   Enter the periods in the address by pressing the space bar on the keyboard.

10. Enter the following address in the "Subnet mask" text box:
    `255.255.255.0`
    Enter the periods in the address by pressing the space bar on the keyboard.

11. Click **OK**. The Internet Protocol (TCP/IP) Properties window disappears.

12 In the Local Area Connection Properties window, click **Close**. The Local Area Connection Properties window disappears.

13. Click **Close** in the Local Area Connection Status window. The window disappears.

14. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer is now set up with a static IP address, allowing access to the Modem's Web Configuration Utility.

Computer Security

The Internet is a giant network of computers located all over the world. When a computer is connected to the Internet, it can exchange information with any other computer on the Internet. This allows a computer user to send e-mail, surf the World Wide Web, download files, and buy products and services online, but it also makes the computer vulnerable to attack from persons intent on doing harm. Unless access to the computer is controlled, someone on the Internet can access the information on the computer and steal, damage, or destroy that information.

*Action*tec recommends securing your computer from unwanted intrusion. Security is ultimately the end user's responsibility. Please secure your computer, and don't be a victim.

Comparing DSL Service with a Dial-Up Modem

With a dial-up modem, a computer user makes an Internet connection by dialing a telephone number, surfs the Internet for a period of time, and then disconnects the dial-up modem. No one on the Internet can access a computer not connected to the Internet.

Unlike a dial-up modem, DSL service is "always connected." The connection is always available – there is no need to dial a phone number to access the Internet. The computer can be connected to the Internet all the time.

With both types of Internet connections, access to the computer must be controlled to make sure someone on the Internet doesn't access the information on the computer. The longer the computer is connected to the Internet, the easier it is for someone on the Internet to find the computer and attempt to access it without permission. DSL service also provides fast Internet connections. This not only improves Internet performance, it also improves Internet performance for anyone attempting to access the computer.

Modem Security

If connecting to the ISP through Point-to-Point Protocol (PPP), be sure to provide the Modem an administrative password. If a password is not set, someone on the Internet can access the Modem and change its configuration or steal your PPP login name and password. For instructions on setting the password, see "Changing the Admin User Name and Password" on page 32.

If connecting to the ISP through bridging mode, the Modem should be safe from unwarranted and illegal intrusion.

Computer Security

To protect the valuable information on the computer, review the following topics. These topics cover software programs and operating system features affecting the security of the computer's data.

Anti-Virus Programs

The computer should have an anti-virus program, and the virus definitions should be updated on a regular basis – at least once a month.

E-Mail Attachments

Never run a program received as an attachment to an e-mail message unless the program is known to be safe. A program from an unknown source can delete all the files on the computer's hard disk or install a "back door" software application that lets people on the Internet gain access to the computer without permission.

Web Browsers

Always exit the Web browser (Internet Explorer or Netscape Navigator, for example). Never "minimize" the browser or leave it open in the background. Breaking into a computer is easier when an Internet browser is running.

Network Applications

Network applications (such as software programs) that allow remote access to the computer also make the computer vulnerable to access from other people on the Internet. If using a network application that allows remote access, consider installing a firewall.

Electronic Security

Here are two methods to secure your computer electronically.

Network Address Translation

If a local area network and a PPP connection to the ISP using dynamic IP addresses through a DHCP server are being used, Network Address Translation (NAT) is being used. NAT provides a very basic level of security.

Firewalls

The safest way to prevent attacks on the computer is through a firewall – a hardware device or software program that protects the computer from unauthorized access by controlling who can access your computer and by monitoring the transmissions between the computer and the Internet

Windows XP has a built-in firewall. For more information, select **Help and Support Center** from the Help menu. Search for **Internet Connection Firewall**.

If Windows 98 SE, Me, NT 4.0, or 2000 is running on the computer, consider installing a firewall. Hardware and software firewall products are changing rapidly as more homes and businesses establish high-speed digital connections between their local area networks and the Internet.

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Specifications

D

General

Model Number

GT701WM-00 (USB/Ethernet DSL Modem)

Standards

IEEE 802.3 (10BaseT)
IEEE 802.3u (100BaseTX)
IEEE 802.11g (Wireless)
G.dmt
G.lite
t1.413
RFC 1483, 2364, 2516

Protocol

LAN - CSMA/CD
WAN - PPP, DHCP, Static IP

WAN

Full-rate ADSL Interface

LAN

10/100 RJ-45 switched port
USB port

Speed

LAN Ethernet: 10/100 Mbps auto-sensing

Cabling Type

Ethernet 10BaseT: UTP/STP Category 3 or 5
Ethernet100BaseTX: UTP/STP Category 5
USB

LED Indicators

Power, DSL, Internet, Ethernet, USB

Environmental

Power

External, 12V DC, 600mA

Certifications

FCC Class B, FCC Class C (part 15, 68), CE Mark Commercial, UL

Operating Temperature

0º C to 40º C (32º F to 104º F)

Storage Temperature

-20º C to 70º C (-4º F to 158º F)

Operating Humidity

10% to 85% (non-condensing)

Storage Humidity

5% to 90% (non-condensing)

Note: Specifications are subject to change without notice.

Glossary

E

Access Point

A device that allows wireless clients to connect to one another. An access point can also act as a bridge between wireless clients and a "wired" network, such as an Ethernet network. Wireless clients can be moved anywhere within the coverage area of the access point and remain connected to the network. If connected to an Ethernet network, the access point monitors Ethernet traffic and forwards appropriate Ethernet messages to the wireless network, while also monitoring wireless traffic and forwarding wireless client messages to the Ethernet network.

ATM (Asynchronous Transfer Mode)

A networking technology based on transferring data in fixed-size packets.

Client

A desktop or mobile computer connected to a network.

DHCP (Dynamic Host Configuration Protocol)

A protocol designed to automatically assign an IP address to every computer on the network.

DNS (Domain Name System) Server Address

Allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses so that when a user enters a domain name into a Web browser, the user is sent to the proper IP address. The DNS server address used by computers on the home network corresponds to the location of the DNS server the ISP has assigned.

DSL (Digital Subscriber Line) Modem

A modem that uses existing phone lines to transmit data at high speeds.

Encryption

A method to provide wireless data transmissions a level of security.

ESSID (Extended Service Set Identifier)

A unique identifier for a wireless network. Also known as "SSID."

Ethernet Network

A standard wired networking configuration using cables and hubs.

Firewall

A method preventing users outside the network from accessing and/or damaging files or computers on the network.

Gateway

A central device that manages the data traffic of the network, as well as data traffic to and from the Internet.

IP (Internet Protocol) Address

A series of four numbers separated by periods identifying a unique Internet computer host.

ISP Gateway Address

An IP address for the Internet router. This address is only required when using a cable or DSL modem.

ISP (Internet Service Provider)

A business that allows individuals or businesses to connect to the Internet.

LAN (Local Area Network)

A group of computers and devices connected together in a relatively small area (such as a house or an office). A home network is considered a LAN.

MAC (Media Access Control) Address

The unique hardware address of a device connected to a network.

NAT (Network Address Translation)

A method allowing all of the computers on a home network to use one IP address, enabling access to the Internet from any computer on the home network without having to purchase more IP addresses from the ISP.

PC Card

An adapter that inserts in the PCMCIA slot of a computer, enabling the communication with a device.

PPPoE (Point-To-Point Protocol over Ethernet)/ PPPoA (Point-To-Point Protocol over ATM)

Methods of secure data transmission.

Router

A central device that manages the data traffic of the network.

Subnet Mask

A set of four numbers configured like an IP address used to create IP address numbers used only within a particular network.

SSID

See "ESSID."

TCP/IP (Transmission Control Protocol/Internet Protocol)

The standard protocol for data transmission over the Internet.

WAN (Wide Area Network)

A network that connects computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a WAN.

WECA (Wireless Ethernet Compatibility Alliance)

An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b wireless networking products and promotes the standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network)

A group of computers and other devices connected wirelessly in a small area.

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Firewall Security Level Services Table

F

The following information is related to the Firewall options (High, Medium, and Low) section in the "Using Advanced Setup" chapter of this manual (see page 33). The types of services and their respective ports are listed in the two right-hand columns: the "In" column details whether a particular service can be accessed by a user outside of the network; and the "Out" column details whether a computer on the Modem's network can access a particular incoming service.

For example, in the "High Security Level" section below, the **http** service uses **port 80**. Since **no** is listed in the **In** column, a user outside the Modem's network cannot access a computer on the network via the http service; in this case, no computers on the network can be used as a Web server (i.e., to host a Web site accessible to outside users). However, since **yes** is listed in the **Out** column, all computers on the Modem's network can access the Internet via the http port.
If Basic Security is selected in the "Firewall" screen, firewall filtering is based on the basic NAT firewall.

High Security Level

Service	Port	In	Out
http	80	no	yes
dns	53	no	yes
ftp	21	no	no
telnet	23	no	no
smtp	25	yes	yes
pop3	110	yes	yes
nntp	119	no	no
real audio/video	7070	no	no
icmp	n/a	no	yes
H.323	1720	no	no
T.120	1503	no	no
SSH	22	no	no
imap	163	yes	yes
https	443	yes	yes
secure imap	983	yes	yes
secur pop3	885	yes	yes

Medium Security Level

Service	Port	In	Out
http	80	no	yes
dns	53	no	yes
ftp	21	no	yes
telnet	23	no	yes
smtp	25	yes	yes
pop3	110	yes	yes
nntp	119	no	yes
real audio/video	7070	yes	yes
icmp	n/a	no	yes
H.323	1720	no	yes
T.120	1503	yes	yes
SSH	22	no	yes
imap	163	yes	yes
https	443	yes	yes
secure imap	983	yes	yes
secure pop3	885	yes	yes

Low Security Level

Service	Port	In	Out
http	80	no	yes
dns	53	yes	yes
ftp	21	no	yes
telnet	23	no	yes
smtp	25	yes	yes
pop3	110	yes	yes
nntp	119	no	yes
real audio/video	7070	no	yes
icmp	n/a	yes	yes
H.323	1720	yes	yes
T.120	1503	yes	yes
SSH	22	yes	yes
imap	163	yes	yes
https	443	yes	yes
secure imap	983	yes	yes
secure pop3	885	yes	yes

Basic Security Level

NAT (Network Address Translation) only.

Service Acronym Definitions

http

Hyper**T**ext **T**ransfer **P**rotocol. This protocol delivers information over the Internet, and is used when a computer connects to a Web site via an Internet browser.

dns

Domain **N**ame **S**ystem. A data query system used to translate host names into Internet addresses (i.e., www.somewebsite.com translates to 888.999.000.111).

ftp

File **T**ransfer **P**rotocol. A protocol used to transfer files over the Internet.

telnet

An Internet communications protocol enabling one computer to function as a terminal working from another (remote) computer.

smtp

Simple **M**ail **T**ransfer **P**rotocol. A protocol used to transfer e-mail between computers over the Internet. Can be used to send and receive e-mail.

pop3

Post **O**ffice **P**rotocol 3. Another protocol used to transfer e-mail between computers. Usually employs a pop3 server, and is used to receive e-mail only.

nntp

Network **N**ews **T**ransfer **P**rotocol. A protocol used to distribute and retrieve news articles over the Internet.

real audio/video

A protocol used to transfer Real Audio or Real Video files.

icmp

Internet **C**ontrol **M**essage **P**rotocol. Allows error messages, text packages, and informational messages to be transferred over the Internet.

H.323

A standard protocol for sending audio and video over the Internet.

T.120

A standard protocol for multimedia teleconferencing over the Internet.

SSH

Secure **Sh**ell. A method for the secure transfer of files from another computer. Also enables remote capabilities (terminal, log in, etc.).

imap

Internet **M**essage **A**ccess **P**rotocol. A protocol for retrieving e-mail messages.

https

Hyper**T**ext **T**ransfer **P**rotocol using **S**ecure Socket Layer. A secure version of the protocol that delivers information over the Internet.

Non-Windows System Setup

G

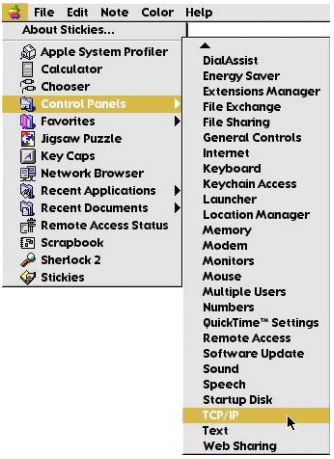
The Modem supports both the Classic Macintosh operating systems (9.2.2 and below), as well as OS X.

☞ ***Note***: When installing any software, consult the user manual and help files supplied with the software for detailed information. *Action*tec provides the following information as a guideline only.

Classic

To configure the Modem, Open Transport 2.5.2 or above must be loaded on the computer.

1. Click **Apple, Control Panels**, then **TCP/IP**.



2. When the "TCP/IP" window appears, select **Edit** from menu bar, then select **User Mode**.

3. When the "User Mode" window appears, select **Advanced**, then click **OK**.

4. In the "TCP/IP" window, select **Ethernet** from the "Connect via" drop-down list.

5. Select **Using DHCP Server** from the "Configure" drop-down list.

6. Ensure the "Use 802.3" option is **not** checked.

7. Disregard any addresses in the IP Address text boxes. They will be reacquired when the first connection is made.

8. Click **Options** and when the "TCP/IP Options" window appears, select **Active**. Ensure the "Load only when needed" option is **not** checked, then click **OK**.

9. Close the "TCP/IP" window and when prompted to save changes, click **Save**.

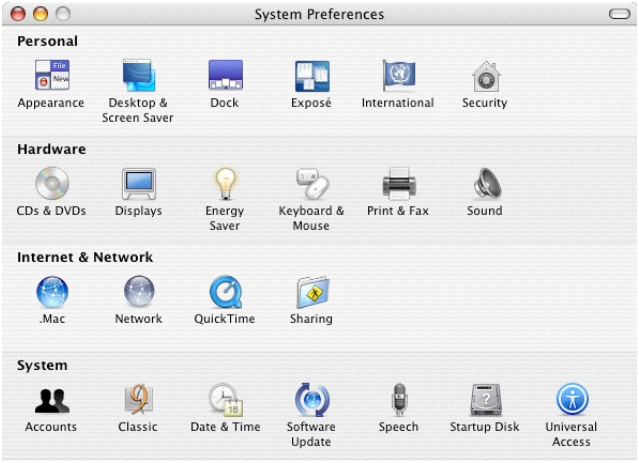
10. Restart the computer. The TCP/IP settings are configured.

To finish setting up the computer to connect with the Modem, follow the instructions in chapter 3, "Performing a Basic Setup," on page 29.

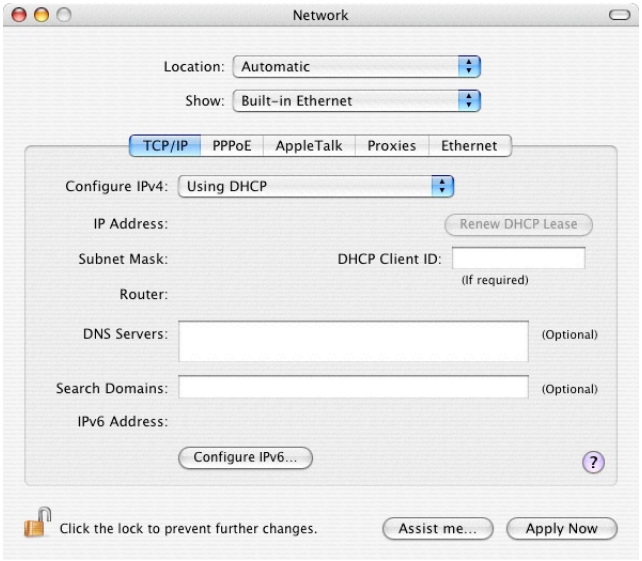
OS X

1. From the Apple Menu, select **System Preferences**.

2. When the "System Preferences" window appears, click **Network**.



3. The Network window appears. Select **Built-In Ethernet** from the "Show" drop-down list.



4. Select **TCP/IP** and, from the "Configure" drop-down list, select **Using DHCP**.

5. Click **Apply Now** and close the "System Preferences" application. The TCP/IP settings are configured.

To finish setting up the computer to connect with the Modem, follow the instructions in chapter 3, "Performing a Basic Setup," on page 29.

Installation Buddy Settings

H

The following information relates to step 2 of the Installation Buddy (see pages 8 and 15).

> ***Note***: The ISP should provide information regarding which option to select. Check the welcome letter or worksheet provided by the ISP. If no welcome letter or worksheet was provided, contact the ISP.

The letters correspond to the following settings:

A

Default Mode - PPPoE
Default VPI - 0
Default VCI - 35

B

Default Mode - PPPoA
Default VPI - 0
Default VCI - 35

C

Default Mode - PPPoE
Default VPI - 8
Default VCI - 35

D

Default Mode - PPPoA
Default VPI - 8
Default VCI - 35

E

Default Mode - PPPoE
Default VPI - 0
Default VCI - 32

F

Default Mode - PPPoA
Default VPI - 0
Default VCI - 32

Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by A*ction*tec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause unwanted operation.

☞ ***Note***: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

*Action*tec Electronics, Inc.
760 North Mary Ave.
Sunnyvale, CA 94086
United States
Tel: (408) 752-7700
Fax: (408) 541-9005

Miscellaneous Legal Notices

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Limited Warranty

Hardware: *Action*tec Electronics, Inc., warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for twelve (12) months from the date of purchase from *Action*tec Electronics or its authorized reseller.

*Action*tec Electronics' sole obligation under this express warranty shall be, at *Action*tec's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, *Action*tec Electronics may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of *Action*tec Electronics, Inc. Replacement products may be new or reconditioned. *Action*tec Electronics warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

Software: *Action*tec Electronics warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from *Action*tec Electronics or its authorized reseller. *Action*tec Electronics warrants the media containing software against failure during the warranty period. The only updates that will be provided are at the sole discretion of *Action*tec Electronics and will only be available for download at the *Action*tec Web site, www.actiontec.com. *Action*tec Electronics' sole obligation under this express warranty shall be, at *Action*tec Electronics' option and expense, to refund the purchase price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable *Action*tec Electronics published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. *Action*tec Electronics makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the *Action*tec Electronics software product documentation or specifications as being compatible, *Action*tec Electronics will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with *Action*tec Electronics published specifications or user guide.

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THIS *ACTION*TEC ELECTRONICS WARRANTY DOES NOT APPLY TO SUCH THIRD-PARTY SOFTWARE. FOR THE APPLICABLE WARRANTY, PLEASE REFER TO THE END-USER LICENSE AGREEMENT GOVERNING THE USE OF SUCH SOFTWARE.

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Return the product to:
(In the United States)
*Action*tec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94086

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